



Chapter 2

WHAT POLICIES CAN HELP TEACHERS ACQUIRE THE KNOWLEDGE AND SKILLS THEY NEED?

This chapter defines teacher professionalism, and describes some of the policies and practices that help develop and enhance it. These include fostering a collaborative culture in schools, providing induction programmes and peer mentoring, focusing on student assessment, strengthening the links between teacher appraisal and professional development, involving teachers in developing professional standards, and engaging teachers in education reform. The chapter highlights examples of effective policies and practices from around the world.

Note regarding Israel

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.



Historically, the concept of professionalism referred to the level of autonomy and internal regulation exercised by members of an occupation in providing services to society (Evans, 2008). Early researchers evaluated whether changes in a particular livelihood were a result of external forces or were due to the internal motivation and efforts of the members of the profession itself. In 18th- and 19th-century Europe, the distinction between occupations and professions lay in the level to which a profession required special knowledge, a formal code of conduct and a mandate to carry out particular services given out by the state, which served as "...the guarantor of legal order [and] the promoter of culture..." (Siegrist, 2015). Over time, the classic definition of the professions was expanded, and university professors and upper secondary teachers were recognised as the experts for education, aesthetics and morality (Siegrist, 2015).

In the 20th century, the professionalisation of teaching was stymied by the growing standardisation of curricula and, with it, the emergence of external accountability. The expansion of education opportunities around the world over the course of the century led to an increase in the number of teachers and scripted lesson plans.

At the turn of the 21st century, however, there was renewed focus on teacher professionalism as an approach to education reform (Darling-Hammond and Lieberman, 2013): as improving teacher quality became viewed as the key to student achievement, teacher professionalism gained greater prominence. Indeed, today teachers' continuous professional development is widely seen as essential for improving teachers' performance and effectiveness, and for enhancing their commitment to their work. Nonetheless, the meaning of teacher professionalism, and the nature and extent of professionalism practices, varies significantly across countries. Varied approaches to professionalism may reflect cultural and historical differences, or differences in national and local policy priorities.

WHAT TEACHER PROFESSIONALISM LOOKS LIKE AROUND THE WORLD

It is instructive to turn to a few high-performing education systems to see what teacher professionalism means on the ground. Interestingly, there is almost just as much variation in approaches to teacher professionalism among high performers as in the rest of the world. Hong Kong (China), for example, has introduced greater teacher autonomy than its neighbours in East Asia. As the OECD notes in its recent *Lessons from PISA* publication (OECD, 2014a), school administrators and teachers in Hong Kong are given the freedom to customise the curriculum, materials and methods. This breadth and depth of autonomy has fostered high teacher professional self-esteem and the internal motivation for continuous professional development. Even with low-performing schools, the government does not intervene in school management; it relies instead on the decision-making power of the school administration and teachers (OECD, 2014a). By contrast, in Shanghai (China), the municipal government designs the policies, manages the schools and improves instruction (OECD, 2014a). Teachers in Shanghai are comprehensively and rigorously trained in pre-service programmes and subsequent regular professional development activities (OECD, 2014a). They are expected to implement the standards and curricular approaches defined by the government and generally have a narrower space for interpretation of curricular objectives (Lai and Lo, 2007).

High-quality teachers and school leaders have formed the cornerstone of the Singapore education system and are a major reason for its high performance. Singapore has developed a comprehensive system for selecting, training, compensating and developing teachers and principals, thereby creating tremendous capacity at the point of education delivery (OECD, 2014a). In Singapore, professional development is defined by apprenticeship, mentoring and collaborative learning environments (National Institute of Education, 2009). Much professional development is school-based, led by staff developers who identify teaching-based problems or introduce new practices. This accords the teaching profession greater autonomy over professional development and facilitates a teacher-led culture of professional excellence (OECD, 2014a). Korea – another East Asian high performer in PISA – relies on the teacher candidate-selection process, pre-service teacher training and national evaluation process – all of which serve to ensure that only the best and the brightest join the ranks of teachers (OECD, 2014a).

In Europe and North America, the usual high performers in PISA – Australia, Canada, Finland, the Netherlands and Sweden – have traditionally been commended for their strong teacher professionalisation practices and the latitude given to teachers to customise their teaching (OECD, 2013a). Most notably, researchers argued that Finland's early success in PISA was explained by the fact that it "...publicly recognizes the value of its teachers and trusts their professional judgements in schools..." (Sahlberg, 2010). Similarly, Webb et al. (2004) document how Finnish teachers tend to emphasise autonomous decision making in their own conceptions of their professionalism.

These differences in the degree of autonomy that teachers are granted suggest that the impact of that autonomy depends on the context. In countries in which teacher training and selection procedures ensure a well-prepared and independent



teaching workforce, autonomy will allow creativity and innovation to flourish; in other cases, autonomy may lead to wrong decisions. Even when teacher quality is similar, the available evidence suggests that autonomy has a positive impact when it is given in return for accountability.

The OECD TALIS survey established a conceptual framework for teacher professionalism. This framework describes teacher professionalism through teachers' knowledge base, autonomy and peer networks. In order to measure how well education systems support teachers' professionalism in each of these domains, TALIS calculates the average number of best practices, as reported by teachers (Box 2.1). Each of the domains of teacher professionalism is scaled from 0 to 5, with 5 representing a theoretical maximum where all practices within the domain are observed. The overall index of teacher professionalism is the sum of the values in the three domains, ranging from a theoretical minimum of 0 to a possible maximum of 15. In reality, most teachers find themselves in environments where these practices are partially observed.

Box 2.1 The TALIS index of teacher professionalism

In constructing the three TALIS scales of professionalism, three composite, additive scales were created. These scales weigh each factor equally and create an additive scale that ranges from 0-5. The composite additive approach, which is based on tangible, observed practices, is more appropriate for teacher professionalism than other approaches, such as confirmatory factor analysis or structural equation modelling, which rely on inter-item correlations to capture a latent construct (such as, for example, job satisfaction). The sub-indices are based on reports from teachers and principals on:

1. Knowledge-base best practices – drawn from TALIS 2013 teacher questionnaire

- pre-service formal education
- participation in formal teacher-education programme
- breadth of content covered in teacher-education programme
- support for in-service professional learning
- types of support provided for ongoing professional development during and outside working hours (time, monetary, non-monetary)
- participation in long-term professional development
- support for practitioner research
- participation in practitioner or action-research

2. Autonomy – drawn from TALIS 2013 principal questionnaire

- decision making over curriculum choices
- decision making over learning materials
- decision making over course content
- decision making over assessment policies
- decision making over discipline policies

3. Peer networks – drawn from TALIS 2013 teacher questionnaire

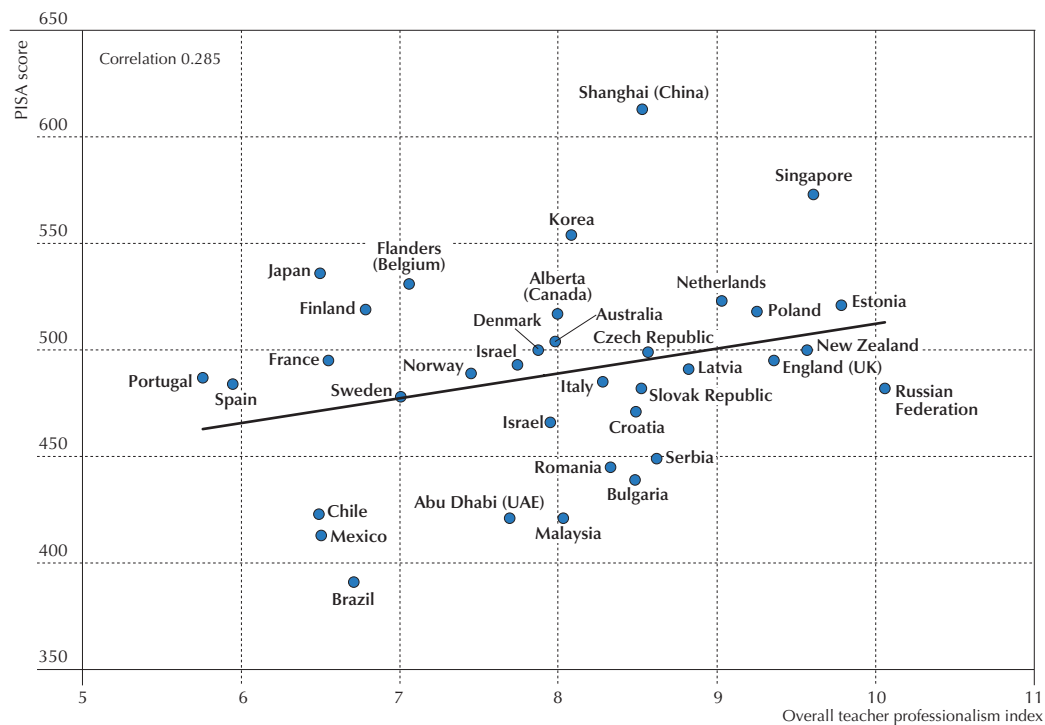
- participation in a formal induction programme
- participation in formal mentoring programme
- received peer feedback on teaching based on direct observation
- development of a professional development plan
- participation in network supporting teacher professional development



The obvious question is: To what extent does teacher professionalism translate into better teaching and, ultimately, better learning outcomes for students? Figure 2.1 plots system-level values of the TALIS teacher professionalism index against student performance in the PISA 2012 mathematics assessment. The trend line suggests that there is a weak, positive relationship between the overall values on the teacher professionalism index and an education system's learning outcomes.

Figure 2.1

PISA scores and overall teacher professionalism Lower secondary teachers



Sources: OECD, TALIS 2013 complete database (http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20); OECD (2014), *PISA 2012 Results in Focus: What 15-year-olds Know and What They Can Do with What They Know*, www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf.
StatLink <http://dx.doi.org/10.1787/888933330465>

The lack of a strong relationship may be due to the complexity and diversity of teacher professionalism included in the index, and suggests that not all of facets of teacher professionalism are equally efficient. Thus, a more detailed analysis would be required to identify which facets have the strongest impact on student performance. One thing is clear however: because teacher professionalism appears, among OECD countries at least, to be unrelated to levels of expenditure on education, the weak relationship between teachers' professionalism and student performance is unrelated to the level of resources invested in education.

TEACHER PROFESSIONALISM ACROSS COUNTRIES

Teacher professionalism varies across countries and economies both in terms of the overall level of teacher professionalism within the education system and the domain of professionalism the country/economy emphasises. Figure 2.2 shows the overall level of teacher professionalism in each education system, broken down by the value of each domain. Overall values range from a maximum of 10.1 in the Russian Federation to a minimum of 5.8 in Portugal. This distribution suggests that, in general, teachers in the Russian Federation are exposed to two of every three best practices, while those in Portugal and in countries towards the bottom end of the spectrum are exposed to slightly more than one out of three.



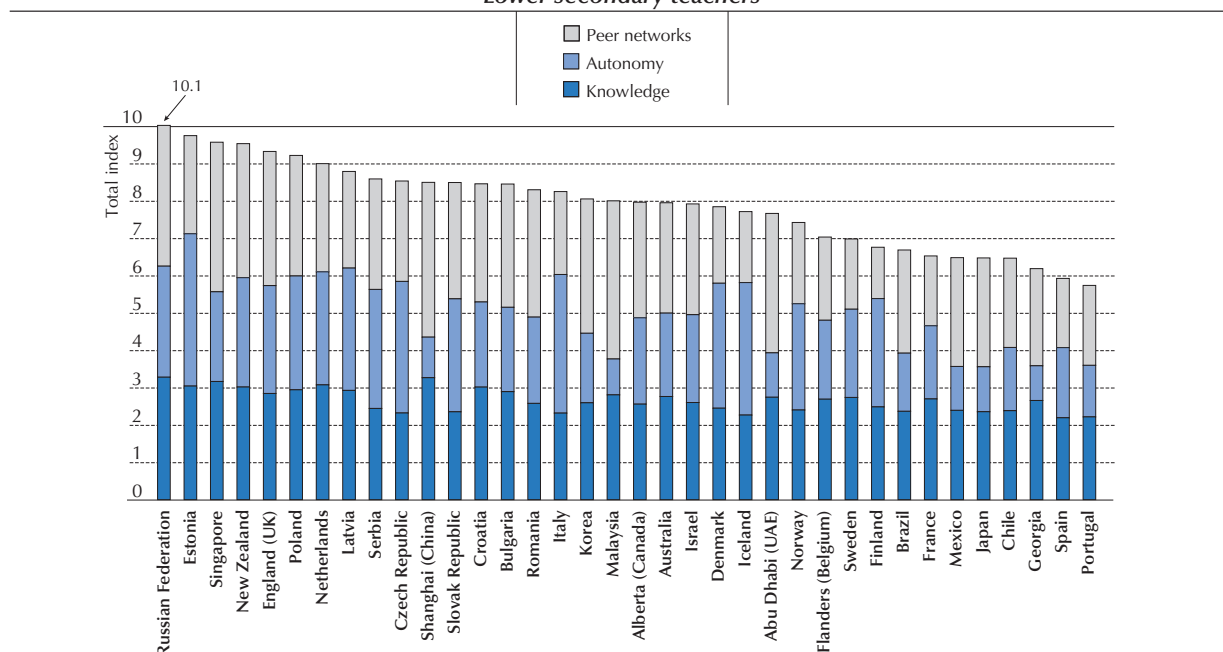
Because teacher professionalism is a composite index, countries and economies with the highest overall values on the teacher professionalism index generally have high values in all three domains. As the figure shows, the education systems with the highest values on the composite index are Estonia, New Zealand, the Russian Federation and Singapore. Seven of the ten education systems with the highest overall professionalism are located in Europe, while two (New Zealand and Singapore) are outside of Europe. The three Latin American countries (Brazil, Chile and Mexico) score at the lower end of the overall index, while Portugal and Spain show the lowest levels of teacher professionalism on the composite index among all the systems surveyed by TALIS.

Figure 2.2 lists each system's value in each domain and codes their values along a spectrum from zero to five (at the high end). In general, East Asian, Middle Eastern and Latin American systems grant less autonomy to teachers. This would suggest that the degree of decision making and control over school processes that teachers are accorded may be partly influenced by cultural norms.

Figure 2.2

Teacher professionalism index, by country

Lower secondary teachers



Countries are ranked in descending order of their overall value on the teacher professionalism index.

Source: OECD (2013), TALIS 2013 complete database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.

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Meanwhile, only two of the education systems that emphasise peer networks are located in Europe, namely England (United Kingdom) and Romania. Peer networks tend to be emphasised most among East Asian countries and economies. The few Latin American and Middle Eastern systems that participated in TALIS also score highest on the peer networks scale. This finding implies a cultural difference in the degree to which countries promote networking and peer feedback among teachers, with East Asian countries and economies such as Malaysia, Shanghai (China) and Singapore among the systems with the highest values on this measure.

THE IMPACT OF TEACHER PROFESSIONALISM

To what extent does teacher professionalism, as measured by this index, make a difference? Table 2.1 shows a teacher's predicted percentile in the distribution of all teachers, estimated by his or her overall score on the teacher professionalism index. The table indicates where, among all teachers, a given teacher would be expected to rank if he/she benefitted from only one best practice, compared to those who benefit from five or ten best practices that the OECD identifies as important. Teachers with a value of only one on the overall index are expected to fall among the bottom third of all teachers in terms of their perceived status, self-efficacy and satisfaction with their profession and work environment.



In contrast, teachers with a value of five on the overall professionalism index are in the 40th to 51st percentile of all teachers in terms of all outcomes. At the top end of the spectrum, teachers with values of ten on the overall index, which corresponds to benefitting from two-thirds of the identified best practices, are likely to rank among the top half of all teachers.

Table 2.1

National means on teacher professionalism domains
Lower secondary teachers

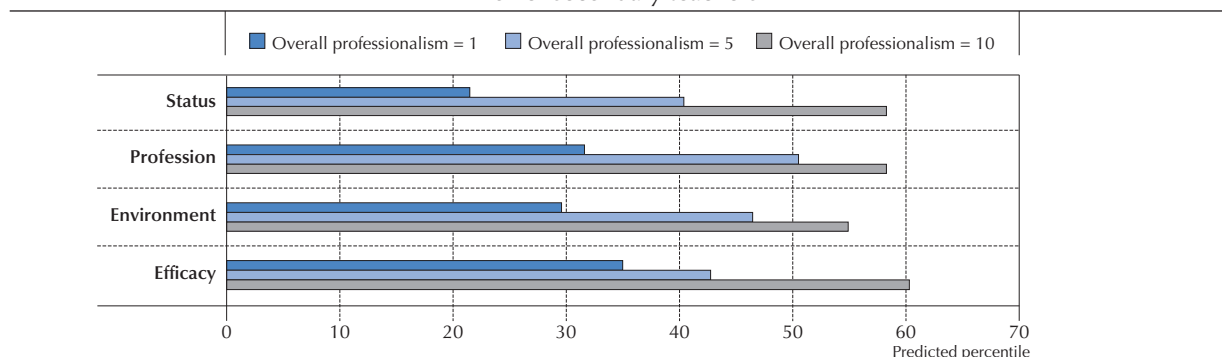
	Knowledge	Autonomy	Networks
Abu Dhabi (United Arab Emirates)	2.8	1.2	3.7
Alberta (Canada)	2.6	2.3	3.1
Australia	2.8	2.2	3.0
Brazil	2.4	1.6	2.8
Bulgaria	2.9	2.3	3.3
Chile	2.4	1.7	2.4
Croatia	3.0	2.3	3.2
Czech Republic	2.3	3.5	2.7
Denmark	2.5	3.4	2.1
England (United Kingdom)	2.9	2.9	3.6
Estonia	3.1	4.1	2.6
Finland	2.5	2.9	1.4
Flanders (Belgium)	2.7	2.1	2.2
France	2.7	2.0	1.9
Georgia	2.7	0.9	2.6
Iceland	2.3	3.6	1.9
Israel	2.6	2.4	3.0
Italy	2.3	3.7	2.2
Japan	2.4	1.2	2.9
Korea	2.6	1.9	3.6
Latvia	2.9	3.3	2.6
Malaysia	2.8	1.0	4.3
Mexico	2.4	1.2	2.9
Netherlands	3.1	3.0	2.9
New Zealand	3.0	2.9	3.6
Norway	2.4	2.9	2.2
Poland	3.0	3.1	3.2
Portugal	2.2	1.4	2.1
Romania	2.6	2.3	3.4
Russian Federation	3.3	3.0	3.8
Serbia	2.5	3.2	3.0
Shanghai (China)	3.3	1.1	4.2
Singapore	3.2	2.4	4.0
Slovak Republic	2.4	3.0	3.1
Spain	2.2	1.9	1.9
Sweden	2.7	2.4	1.9

Source: OECD (2013), TALIS 2013 complete database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.
StatLink  <http://dx.doi.org/10.1787/888933330603>

In concrete terms, it appears that using even a few best practices matters more for teachers who do not already benefit from any of them than for teachers who use at least two out of three of the best practices. As Figure 2.3 shows, teachers who benefit from fewer than two best practices of teacher professionalism are likely to rank among the bottom third of all teachers in terms of their perceived status and satisfaction; they are much less likely to report that they believe teaching is valued in society and that they are satisfied in their work environment and with their profession, in general. They are also less likely to be confident about their teaching (self-efficacy), although the impact is less pronounced: even teachers in schools that use fewer than two best practices fall within the 35th percentile of all teachers. In contrast, those benefitting from roughly two out of three practices are likely to be in the top half of the distribution, all other factors held constant.



Figure 2.3
Teacher professionalism and teacher outcomes
Lower secondary teachers



Note: The baseline is set as one best practice on the total professionalism index because very few teachers in the dataset had a value of 0 on the overall index. The small sample made predictions on that population unreliable.

Source: OECD (2013), TALIS 2013 complete database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.

StatLink <http://dx.doi.org/10.1787/888933330483>

FORMULATING EXPECTATIONS

To build teacher professionalism, policy makers and the profession itself must establish clearly and concisely what teachers are expected to know and be able to do. This framework will guide initial teacher education, teacher certification, teachers’ ongoing professional development and career advancement, and can be used to assess the effectiveness of each.

Teachers’ work and the knowledge and skills that they need to be effective should reflect the learning objectives that schools aim to achieve. There needs to be profession-wide standards and a shared understanding of what counts as accomplished teaching. The profile should be evidence-based and built on the teaching profession’s definitions of teacher competencies and standards of performance. It should reflect the broad range of competencies that teachers need to be effective practitioners in modern schools. It should encompass strong subject-matter knowledge, pedagogical skills, the capacity to work effectively with a wide range of students and colleagues, contributions to the school and the wider profession, and the teacher’s capacity to continue developing. The profile could delineate the different levels of performance appropriate to beginning teachers, experienced teachers, and those with greater responsibilities. Not least, the profile should emphasise the demonstrated attainment of key knowledge, skills and competencies for effective professional practice.

PROFESSIONAL DEVELOPMENT

How well-prepared teachers feel

TALIS data show that a majority of teachers has received formal content and pedagogical training and a practical component for some or all of the subjects they currently teach. In general, teachers report that their formal education prepared them well for their work as teachers (Figure 2.4). On average, 93% of teachers reported being well or very well prepared to teach the content of the subjects they teach, and 89% feel well or very well prepared in terms of the pedagogy and the practical components of the subjects they teach.

On average, 72% of teachers reported having received formal education that included content for all the subjects they currently teach. A further 23% of teachers reported having received prior content training for at least some of their subjects. Meanwhile, an average of 70% of secondary teachers reported that their formal education included pedagogy training for all the subjects they teach, and nearly one in four (23%) reported participating in this training for some of the subjects they teach. The proportions are similar for practical components: on average, 67% of teachers reported that their formal education included classroom practice in all of the subjects they teach, while 22% reported classroom practice in some of the subjects they teach.

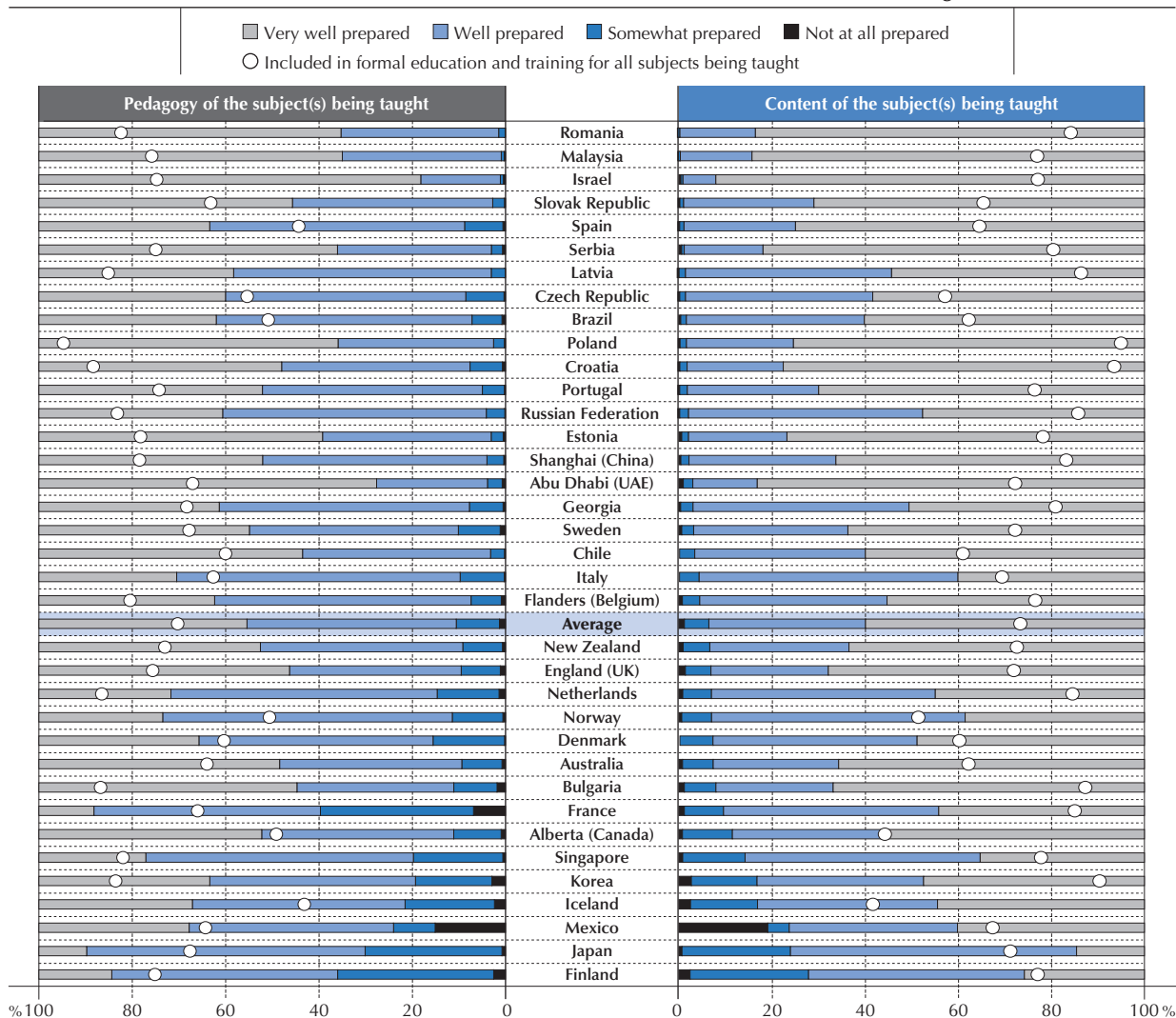
What is it about a teacher’s formal education, then, that makes the teacher feel more or less prepared for teaching? Results from TALIS analyses suggest that not only does a teacher’s formal education, including teacher initial education, help him or her feel better prepared for work as a teacher, but the specific elements included in that training, such as content and pedagogical training, and classroom practice, can make a significant difference as well.



Figure 2.4

Teachers' feelings of preparedness for teaching

Percentage of lower secondary teachers who reported feeling “very well prepared”, “well prepared”, “somewhat prepared” or “not at all prepared” for the content and the pedagogy of the subject(s) they teach and whether these were included in their formal education and training



Countries are ranked in ascending order, based on the percentage of teachers who reported feeling “not at all prepared” or “somewhat prepared” for the content of the subject(s) being taught.

Source: OECD (2013), TALIS 2013 complete database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.

StatLink <http://dx.doi.org/10.1787/888933330493>

Approaches to professional development

Much of the focus of teacher development has been on initial teacher education – the knowledge and skills that teachers acquire before starting work as a teacher. Most of the resources for teacher development have been allocated to pre-service education, and this is the phase that is most intensely debated within countries. In a number of countries, the initial qualification that teachers earn is a key determinant of their career path. However, given the rapid changes in education, the potentially long careers that many teachers have, and the need for updating skills, teachers' development must be viewed in terms of lifelong learning, with initial teacher education conceived as providing the foundation for ongoing learning, rather than producing ready-made professionals.

Effective professional development is continuous. It includes training, practice and feedback, and provides adequate time and follow-up support. Successful programmes involve teachers in learning activities that are similar to those they will use with their students, and encourage the development of teachers' learning communities. A key strategy involves



finding ways for teachers to share their expertise and experience systematically. There is growing interest in ways to build cumulative knowledge across the profession, for example by strengthening connections between research and practice, and encouraging schools to develop as learning organisations.

There is a wide variety of questions in TALIS that ask teachers about their prior participation in professional development activities. TALIS distinguishes between:

- The kinds of traditional professional development activities in which teachers have long participated: conferences, workshops, in-service training, and qualification programmes. They are referred to as “non-school embedded” professional development. Overall, teachers report that they have participated in these kinds of activities more than other kinds of professional development.
- Activities that are more closely aligned with professional development literature, indicating that ongoing, intensive and collaborative activities (referred to here as “school embedded” professional development) have a greater impact on teaching practice. These kinds of activities include participating in professional development networks, undertaking collaborative research on problems of practice, peer observation and coaching.

While teachers in most countries report participating in non-school embedded professional development more often, the general trend is that the greater the participation in one type of professional development activity, the less the participation in the other type. Results from TALIS also suggest that school-embedded professional development activities seem to have a greater impact on teachers’ self-efficacy.

There are substantial challenges in ensuring that all teachers – and not only the most motivated ones – are lifelong learners, and in linking individual teachers’ development to school needs.

Three broad strategies for professional development are evident among TALIS-participating countries:

- Entitlement-based, which generally results from collective bargaining agreements that stipulate that teachers are entitled to certain amounts of released time and/or financial support to undertake recognised professional development activities.
- Incentive-based, which links professional development to needs identified through a teacher-appraisal process, and/or recognises participation in professional development as a requirement for salary increases or assuming new roles.
- School-based, which links individual teacher development with school-improvement needs.

The three strategies are not necessarily mutually exclusive, although the starting points of the entitlement- and incentive-based approaches tend to be the individual teacher rather than the whole school.

A comprehensive approach to professional development would encompass all three strategies. Providing teachers with agreed levels of released time or financial support for professional development is an explicit recognition of the importance of professional development and a way of enabling teachers to participate. But it is also important for teachers to see the value of participating, to understand that it is an important part of their professional role, and to see the “entitlement” provision as the minimum extent of their participation rather than the maximum. This is most likely to occur when teachers can see a clear link between professional development activities, improvements in their own practice, student progress, and overall school improvement.

Fragmentation and limitations

Although professional development is increasingly woven into policy, it often seems to be fragmented and limited in scope. The three broad strategies described above attempt to stimulate the demand for professional development activities, but they are not always matched by reforms on the supply side. In a number of countries, the use of public funding for professional development activities is restricted to programmes provided by a few organisations, notably teacher-education institutions or agencies specialising in professional development. This can reduce the incentives for innovation and improvement in these programmes, especially in those countries where participation in professional development activities is mandated. It is important to encourage a range of professional development providers, ensure that quality standards are met, and disseminate good practice.

Professional development can also appear fragmented from the individual teacher’s perspective. The development of clear teacher profiles and standards of performance at different stages of the teaching career will help to provide a purpose and a framework for professional development, as well as criteria against which the results can be assessed. Teacher portfolios can also allow teachers to keep track of professional development activities in a more systematic manner.



In general, there is still very little understanding about the nature and extent of professional development activities. Activities labelled as “professional development” are diverse, and the outcomes are highly dependent on the particular circumstances in which those activities are undertaken. (For an international review of literature about teacher professional development, see Villegas-Reimers [2003]).

The hallmarks of effective programmes

The most effective forms of professional development seem to be those that focus on clearly articulated priorities, provide ongoing school-based support to classroom teachers, deal with subject-matter content as well as instruction strategies and classroom-management techniques, and create opportunities for teachers to observe, experience and try new teaching methods.

Effective professional development activities forge a close connection between teachers’ own development, their teaching responsibilities and their school’s goals. A frequently heard criticism of many professional development programmes is that they treat teachers’ professional development as an activity distinct from teachers’ daily work, which both limits the effectiveness of these programmes and reduces the chances for schools to benefit from informal learning (Education Commission of the States, 2004).

Encouraging schools to become learning organisations requires that teachers have: the *motivation* to create new professional knowledge; the *opportunity* to engage actively in innovation; the *skills* to test the validity of innovations; and the *mechanisms* for transferring the validated innovations rapidly within their school and into other schools (Hargreaves, 2003). Targeted professional development activities can be an important source of ideas and techniques for building these features in schools. Perhaps even more important are skilled school leaders who are able to build a climate of collegiality and improvement within schools, and systems of teacher evaluation and career development that recognise and reward teachers who innovate, share their learning, and help achieve school goals.

TALIS asked teachers whether their professional development covered each of 14 specific topics (such as pedagogical competencies in teaching the subject, student evaluation and assessment practices, approaches to individual learning, and teaching students with special needs), and if so whether that professional development had a positive impact on their teaching. This self-reported measure of effectiveness is important because teachers’ perception of the effectiveness of certain professional development activities may affect their future participation in such activities.

Although the reported participation rates in professional development vary widely across the different areas of focus (between 16% and 73% of teachers, on average, reported that they participated in professional development covering at least one of these areas), teachers generally indicated that their professional development has a moderate or large positive impact on their teaching, regardless of the area covered (between 76% and 91% of teachers, on average, reported that their professional development in these areas had a positive impact on their teaching).

However, Figure 2.5 tells a more nuanced story. First, it shows that larger proportions of teachers, on average, reported that they had undertaken professional development focused on the content (73%) or pedagogical knowledge (68%) of the subject they teach rather than in the areas identified by TALIS as emerging competency areas and areas where there is a shortage of skills. For example, 16% of teachers reported that they had participated in professional development on teaching in a multicultural setting, and around 33% of teachers participated in professional development on teaching students with special needs.

Second, teachers are less likely to report a moderate or large positive impact on their teaching from professional development in these emerging competency areas. Some 77% of teachers reported a moderate or large positive impact on their teaching from professional development activities that focused on teaching students with special needs or teaching in a multicultural or multilingual setting. In contrast, 91% of teachers who participated in professional development in subject-matter content and 87% of teachers who participated in such activities focusing on pedagogy reported such positive impact on their teaching.

Individual teacher development, in turn, needs to be associated with school improvement. To be most effective, professional development programmes should be co-ordinated at the school level so that teachers are aware of the learning goals pursued by their colleagues and potential areas for collaboration. Such joint efforts can contribute to establishing learning communities. Schools that associate the individual teacher’s needs with the school’s priorities, and that also manage to provide the corresponding professional development activities, are likely to perform well.

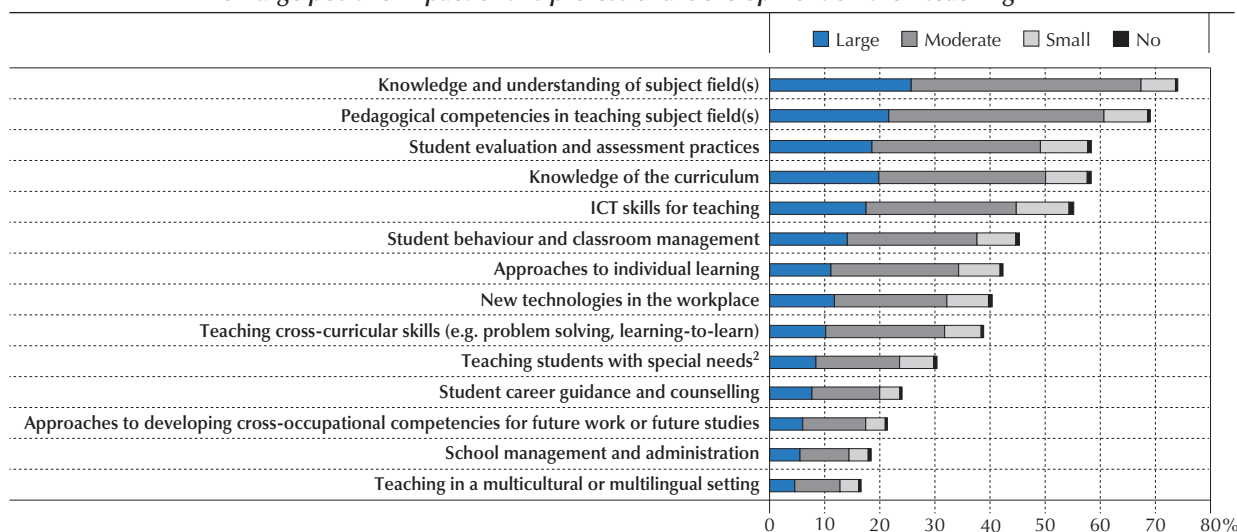


Schools can learn from the strengths of effective teachers and implement professional development programmes that address their weaknesses. Given the important role that school leaders play in linking teacher appraisal results with teacher and school development, school leaders themselves should be well-trained in this task.

Figure 2.5

Content and impact of professional development activities

Percentage of lower secondary teachers who reported having participated in professional development with the following content in the 12 months prior to the survey and who reported a moderate or large positive impact of this professional development on their teaching¹



1. The percentages presented in this graph do not have the same denominator. The percentages presented on the perceived impact are based on answers from teachers who indicated that the topic was covered in their professional development activities, while the percentages of teachers who reported that the topic was covered in their professional development activities are based on answers from all the teachers who reported that they participated in professional development activities.

2. Special needs students are not well defined internationally but usually cover those for whom a special learning need has been formally identified because they are mentally, physically or emotionally disadvantaged. Often, special needs students are those for whom additional public or private resources (personnel, material or financial) have been provided to support their education. “Gifted students” are not considered to have special needs under the definition used here and in other OECD work. Some teachers perceive all students as unique learners and thus having some special learning needs. For the purpose of this survey, it is important to ensure a more objective judgment of who is a special needs student and who is not. That is why a formal identification is stressed above.

Items are ranked in descending order, based on the perceived impact of the topic included in the professional development activities.

Source: OECD (2013), TALIS 2013 complete database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.

StatLink <http://dx.doi.org/10.1787/888933330506>

Box 2.2 Teacher professional learning in high-performing systems

A new report, *Beyond PD: Teacher Professional Learning in High-Performing Systems*, examines professional learning in four high-performing systems to show how other systems around the world can develop and implement effective teacher development and professional learning programmes.

The study, conducted by *Learning First*, examined teacher professional learning in four high-performing systems: Shanghai (China), Hong Kong (China), Singapore and British Columbia (Canada). While these systems are quite different, a similar strategy ensures that effective collaborative professional learning is built into the daily lives of teachers and school leaders in all of these systems. This is achieved through:

- Greater precision in the delivery of teacher development in schools based on an improvement cycle that is common across all teacher professional learning.
- A system-wide strategy that places a greater emphasis on teacher development that extends well beyond traditional professional-development policies. School accountability, leadership development and school resourcing all ensure that the quality and precision of teacher development in schools is high and continually improving.

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Focus on an improvement cycle

The strategic objective in these systems requires all professional learning to be centred on an improvement cycle that is always tied to student learning. The cycle orients professional learning around the following steps:

- Assess students' learning to identify their next stage of learning (at either an individual or school level).
- Develop the teaching practices that provide for the next stage of student learning (and be clear about what evidence supports this).
- Evaluate the impact of new teaching practices on student learning so that teachers can further refine their practice.

This anchors all teacher professional learning in student learning. Professional learning topics are chosen based on students' greatest needs, and improvements in teaching and learning are evaluated. When applied properly, this method links professional learning to improvements in student learning and to teachers' own needs.

What makes these systems effective?

To operationalise an improvement cycle, these four systems use professional learning programmes, like mentoring and learning communities, that encourage and require teacher collaboration and feedback. Professional learning programmes like these are popular around the world, but have mixed results and are often ineffective.

In isolation, an improvement cycle is insufficient for sustained reform. To make the cycle effective requires a broad strategy with strong linkages between how leadership roles are structured, how resources are allocated, and the focus of evaluation and accountability measures. High-performing systems transform the improvement cycle into a culture of continuous professional learning that, in time, turns schools into true learning organisations.

These four systems did not just change single, isolated policies to improve professional learning; they thought about the overall strategy for change. They show that to make teacher professional learning effective, reforms must extend well beyond traditional teacher-development policies. These high-performing systems take a comprehensive approach that includes:

A reform strategy: Such a strategy regards effective professional learning as the main catalyst of school improvement. It is a change strategy that recognises that to develop new professional learning and teaching practices in schools, new practices must be continually developed and reinforced. To achieve this, these systems are much more explicit about what constitutes effective professional learning and how schools are to improve. They create clear objectives for developing leaders and for ensuring that schools and other parts of the education system are evaluated and held accountable for improvement and effective professional learning.

Developing leaders: In these high-performing systems, it is recognised that new leadership is required to change schools and improve teaching. New leadership positions have been created for teachers to lead teacher professional learning. These teachers are regularly trained alongside school principals so that each school has multiple leaders to continually change practice. They work closely with school principals and ensure that teachers' individual and collective professional learning is meeting school objectives. These include master teachers who develop professional learning in their subject area and in-school professional learning leaders.

Evaluation and accountability: Too often discussions about education reform have created a false distinction between development and accountability policies. Systems focus accountability on student outcomes, but then leave it up to schools to determine how to achieve those goals. But for these high-performing systems, evaluation and accountability are integral to the success of professional learning in schools. This is because evaluation and accountability focus not only on student performance, but also on the quality of instruction and professional learning.

A broader focus on accountability does not mean a weakening of consequences for poor performance. On the contrary, district leaders in British Columbia (Canada) hold school leaders accountable for the quality of professional learning in their schools. Teachers in Shanghai (China) are not promoted unless they can demonstrate that they work collaboratively. Similarly, mentors are not promoted unless the teachers they mentor improve. As teachers and school leaders move up their career tracks in Singapore, how they develop other teachers' skills is given increasingly greater weight in their performance review. This reinforces the importance of teacher professional learning to school improvement, and ensures that the quality of teacher development continually improves. ...



Resourcing and creating time: A common problem that hinders 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 professional learning. High-performing systems, however, ensure that sufficient time is available. The average teacher in Shanghai (China) teaches for only 10-12 hours per week. Considerable time is allocated to professional learning. But Shanghai is an outlier even among high-performing systems. For example, in British Columbia (Canada), huge advances have been made with only 1-2 periods per week allocated to formal professional learning. Even this modest difference has enabled much more professional learning within and between classes during the school week.

Source: Jensen B., J. Sonnemann, K. Roberts-Hull and A. Hunter (2016), *Beyond PD: Teacher Professional Learning in High-Performing Systems*, www.ncee.org/beyondpd/. This report was authored by Learning First (www.learningfirst.org.au) and commissioned by the Bill and Melinda Gates Foundation and the National Center on Education and the Economy.

POLICIES TO SUPPORT TEACHER PROFESSIONALISM

Prioritising approaches that matter most

Teachers in TALIS reported less participation in the kinds of professional development activities that are usually considered to be the most effective. For example, teachers reported participating less often in school-embedded professional development that involves teacher collaboration on activities within the school. These differences matter, because participation in school-embedded professional development activities is positively associated with teachers' reports of the impact of professional development activities on their teaching. By contrast, participation in non-school embedded professional development is negatively associated with such impact.

While teachers may acquire new knowledge and skills by participating in professional development activities, whether or not they use what they learn in their own classrooms depends on their own beliefs and the school environment. Results from TALIS show that teachers' beliefs, such as feelings of preparedness, self-efficacy, constructivist pedagogical beliefs, and satisfaction with performance, are associated with self-reports that professional development activities have an impact on teaching. However, the relationship between these beliefs and the reported impact of professional development is not always linear. When teachers report very low or very high levels of self-efficacy, they may be less likely to use new knowledge and skills in their classrooms. Teachers with moderate levels of these beliefs are the most likely to use the knowledge and skills acquired through professional development activities.

In addition, school conditions, such as teacher co-operation and the presence of instructionally focused leadership, can influence the impact of professional development on teachers. Teachers who work in balanced, collaborative schools – characterised by high levels of both co-operation and instructional leadership – report both greater participation in school-embedded professional development activities and greater impact of those activities on their teaching.

Thus, “effective” teacher professional development that has an impact on teachers' instructional practices are activities that take place in schools and allow teachers to work, over time, in collaborative groups, on problems of practice. These types of activities are most likely to occur in schools that are characterised by co-operation among teachers and strong instructional leadership.

Policy makers can encourage participation in more effective professional development by first addressing the culture of schools. Structures and processes that encourage teachers to co-operate, including providing time and opportunities for teachers to do so, are needed. School leaders should be encouraged to focus on instructional leadership.

With the right school conditions in place, policy makers can also increase the amount and variation of school-embedded professional development offerings. These activities may include teacher-initiated research projects, teacher networks, observation of colleagues, and mentoring and coaching. Teacher participation in non-school embedded professional development should be limited. By supporting the conditions and activities most associated with effective teacher professional development, policy makers can increase the likelihood that students are positively affected.

There is also emerging evidence that the emphasis of professional development activities matters as well. Professional development could be used as a way to enhance teacher motivation. Indeed, teacher motivation is related to teachers' willingness to take advantage of learning opportunities and to engage in professional development (e.g. Nitsche, et al., 2013; Thoonen et al., 2011).



But most important, research is beginning to show that teacher professional development that is designed to build teachers' motivation is more successful in encouraging teachers to use new instructional strategies (e.g. Tschannen-Moran and McMaster, 2009).

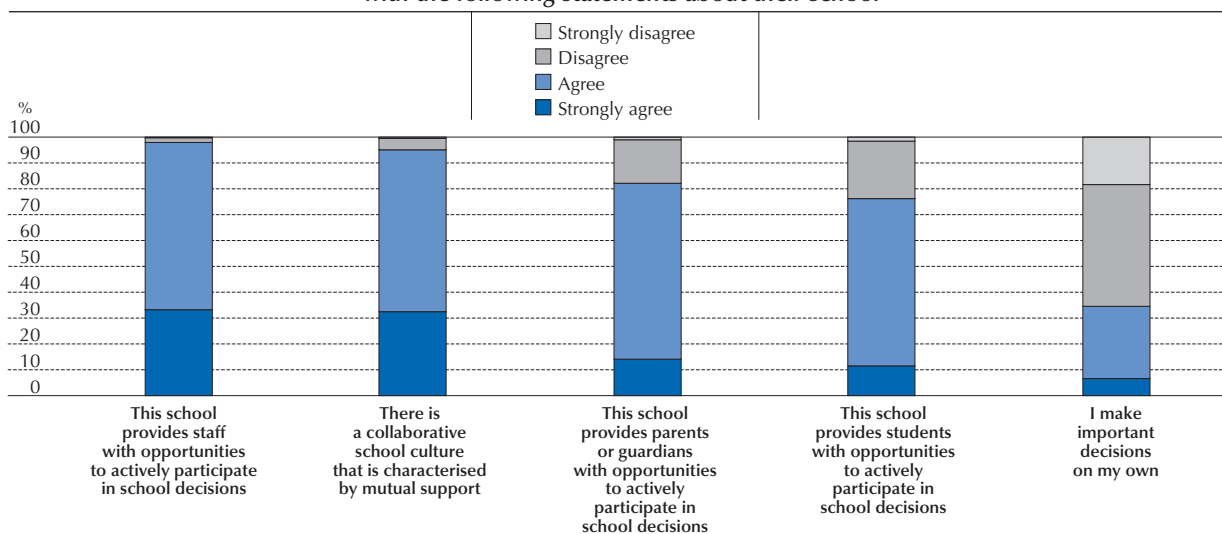
Including teachers in decision making

Figure 2.6 summarises the extent to which schools provide collaborative working environments, according to teachers' reports. Teachers who reported that they are provided with opportunities to participate in decision making at school reported greater job satisfaction (in all TALIS-participating countries and economies) and a greater sense of self-efficacy (in most countries/economies). The relationship between job satisfaction and teacher participation in school decision making is particularly strong in all countries.

Figure 2.6

School decisions and collaborative school culture

Percentage of lower secondary principals who "strongly disagree", "disagree", "agree" or "strongly agree" with the following statements about their school



Items are ranked in descending order of the percentage of principals who "agree" or "strongly agree" with the statement about their school.

Source: OECD, TALIS 2013 Database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.

StatLink <http://dx.doi.org/10.1787/888933330515>

In addition, in almost all TALIS countries/economies, the extent to which teachers can participate in decision making has a strong positive association with the likelihood of reporting that teaching is a valued profession in society. Fewer than one in three teachers across TALIS countries/economies believe that teaching is a valued profession in society. But in all but one TALIS country, the extent to which teachers can participate in decision making has a strong, positive association with the likelihood of teachers reporting that teaching is valued profession in society.

The concept of distributed leadership is not only important for helping to alleviate some of the burden school leaders face, but it can be beneficial to teachers as well. Teachers are uniquely placed to aid in school-level decision making because they might be closer to students and parents, more familiar with how the curriculum is implemented, and better able to discuss student assessments and results than their school principals might be. Thus, it is not only worthwhile for school principals to devolve some of the responsibility for school-level decisions to teachers, but policy makers should consider providing guidance on distributed leadership and distributed decision making at the system level.

Figure 2.7 summarises the prevalence of practices for distributed leadership as reported by principals.

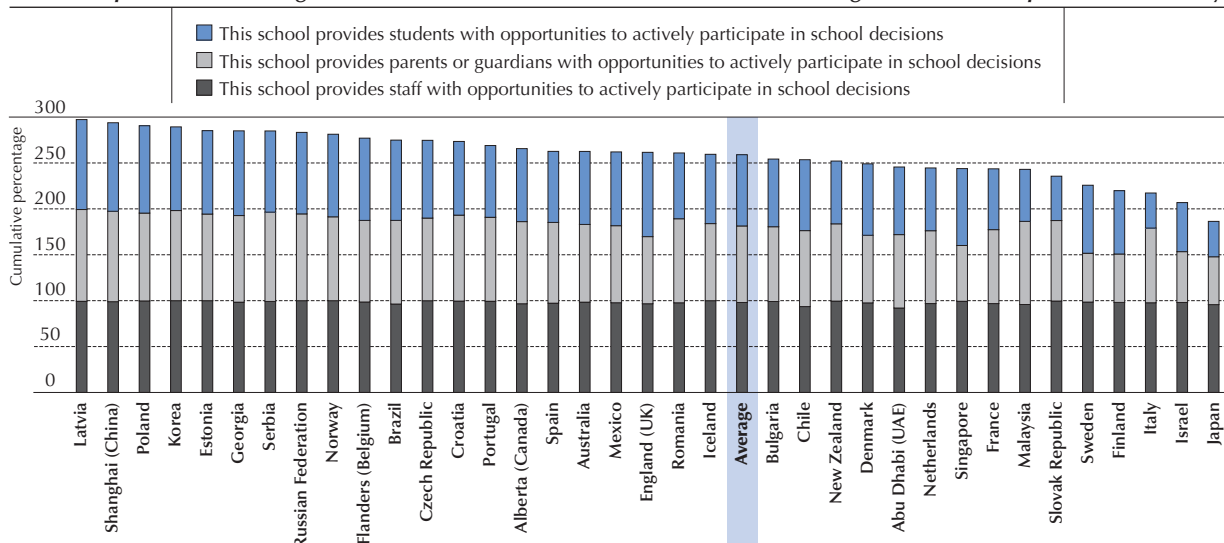
TALIS also shows that principals who participated in professional training or courses are more likely to create opportunities for staff, students and parents or guardians to take part in school decisions. There is a small, but significant, relationship between a principal's engagement in professional development activities and his or her distributional leadership. This concerns principals' participation in a professional network, mentoring or research activity, their participation in courses, conferences or observational visits, as well as principals' participation in other professional development activities.



Figure 2.7

Distributed leadership in schools

Percentage of lower secondary principals who reported that they “often” or “very often” distributed leadership activities among other stakeholders in and around the school during the 12 months prior to the survey



Countries are ranked in descending order of the percentage of principals who reported that leadership activities are distributed among other stakeholders in their school.

Source: OECD (2013), TALIS 2013 complete database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.
 StatLink <http://dx.doi.org/10.1787/888933330524>

Distributed leadership is positively related to a shared sense of purpose in schools – one of the key components of professional learning communities. This finding, which is observed in primary, lower secondary and upper secondary education, suggests that involving students and their parents or guardians, in addition to school staff, creates a culture of shared responsibility for school issues, which is characterised by mutual support among all stakeholders. In lower secondary schools, a stronger emphasis on distributed leadership is also related to teachers who are more often involved in reflective dialogue and collaborative actions. However, these findings were not corroborated in primary and upper secondary education.

Strengthening peer collaboration through induction programmes and mentoring

The first years of a teacher’s career can make or break that career. Induction and support programmes for beginning teachers can improve the effectiveness and job satisfaction of new teachers – and thus make it less likely that those teachers will leave the profession at the first hurdle. The United States school districts of Cincinnati, Toledo and Rochester, for example, managed to reduce beginning teacher attrition by more than two-thirds by having expert mentors coach beginning teachers during their first year (National Commission on Teaching and America’s Future, 1996). In addition, well-designed programmes help new teachers in applying the more theoretical knowledge acquired in their teacher-preparation programmes to teaching in the classroom. Well-developed induction programmes can give school systems a competitive edge in hiring new teachers.

The importance of induction programmes for new teachers in the early years of their teaching careers is now widely acknowledged. In successful programmes, mentor teachers provide guidance and supervision to beginning teachers in close collaboration with the initial teacher-education institution. These mentors provide on-the-job support, identify deficits in subject-matter knowledge, classroom management strategies and other pedagogical processes.

Central to the success of induction and mentoring programmes are the resources dedicated to those programmes and the quality of mentor training. Often, schools that would need to provide the most support to beginning teachers are the least capable of delivering high-quality induction programmes. Thus effective partnerships between teacher-education institutions and schools are particularly important.

TALIS defines induction programmes for teachers as a range of structured activities at school to introduce teachers to their new school (or into the teaching profession for new teachers). These activities could include peer work or mentoring (Box 2.3). Induction and mentoring programmes may help new teachers cope with initial difficulties and challenges.



Ingersoll and Strong (2011) reviewed empirical studies on the effects of support, guidance and orientation programmes (that is, induction programmes) for beginning teachers. They found that most of the studies provide empirical evidence for the claim that support and assistance for beginning teachers have a positive influence on several outcomes, such as teachers' commitment and retention, and student achievement. In particular, empirical evidence shows that students taught by teachers who had received comprehensive induction support show larger learning gains than those shown by students who are taught by teachers who had not received such support (see, for instance, Glazerman et al., 2010).

Box 2.3 Induction programmes in Singapore and France

The central role of induction in Singapore

Upon completion of pre-service teacher education, beginning teachers in Singapore participate in induction programmes at both the national and school levels.

At the national level, they attend a three-day induction programme, called the Beginning Teachers' Orientation Programme, conducted by the Singapore Ministry of Education. This programme emphasises the importance of the role of teachers in nurturing the whole child and enables beginning teachers to consolidate their learning at the teacher institute. By presenting the roles and expectations of teachers, this programme also inducts new teachers into Singapore's teaching fraternity in the areas of professional beliefs, values and behaviours.

During the first two years of teaching, further guidance is provided to beginning teachers via the Structured Mentoring Programme. This programme enables teachers to learn practical knowledge and skills from assigned mentors who are experienced or senior teachers at the school. The school has the autonomy to customise the programme according to the learning needs of the new teachers. Besides practical skills, the programme helps to deepen the understanding of new teachers about the values and ethos of the teaching profession.

Induction as part of a consecutive model of teacher education in France

From the early 1990s to 2010, France had a consecutive model of teacher education. Training in academic subjects was largely predominant, which led to a high level of specialisation in secondary education teaching. After a bachelor's degree or higher, students sat a competitive examination for recruitment. Successful candidates received one year of training and were assigned a tutor. Since the early 2000s, new teachers have been mostly enrolled in formal induction programmes during their first year of regular employment, with scheduled time for activities. These specific programmes take place outside the schools, and are based on classroom practices to help new teachers manage a full-time job.

Launched in 2010, the reform called "mastérisation" made access to the teaching profession conditional upon completing a master's degree. A new structure of initial teacher education was elaborated under the education act of July 2013, and has been in effect since the start of the 2013/14 school year. Within graduate schools of professorship and education (*Écoles supérieures du Professorat et de l'Enseignement*, ESPE), which are integral parts of the universities, the study programmes combine academic subject studies, theoretical pedagogy and practical teaching experience to ensure a progressive start to the teaching profession. Induction programmes still exist, but they are now reduced and included in other in-service teacher training activities. If available, they are often focused on classroom management in order to respond to new teachers' needs, especially those assigned to difficult areas.

Sources: Ministry of Education, Singapore; Ministry of Education, France.

As shown in Figure 2.8, whereas, on average, 70% of these less-experienced teachers work in schools whose principals reported that induction programmes are available, only slightly more than half of these teachers reported having taken part in such programmes. This means that some teachers who have access to such programmes may not be taking advantage of them.

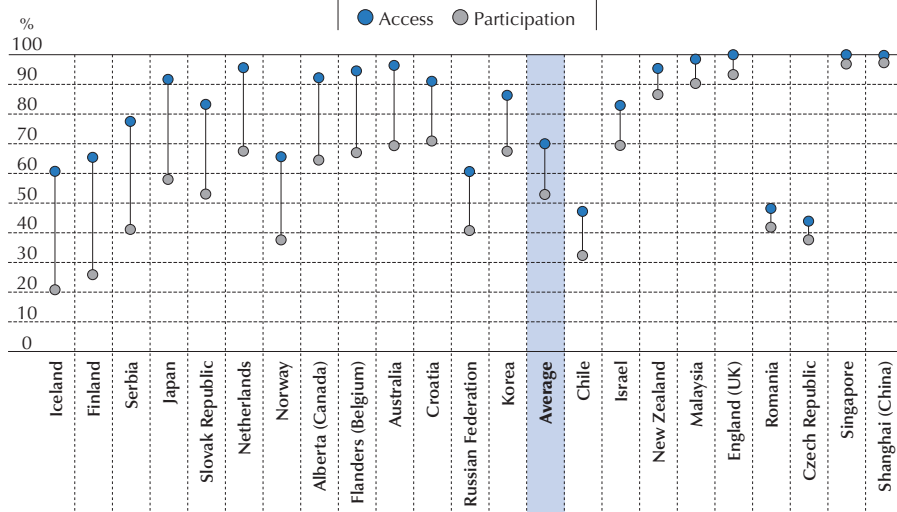
Another element of professional development is mentoring, which TALIS defines as a support structure in schools where more-experienced teachers support less-experienced teachers. This structure might involve all teachers in the school or only new teachers. The literature similarly defines mentoring as personal guidance, usually provided by more-experienced teachers to beginning teachers. The overall objective of teacher-mentoring programmes is to give newcomers a local guide; but the character and content of these programmes varies widely. In addition, evidence shows that the students of teachers who receive more hours of mentoring achieve at higher levels than those whose teachers had fewer hours of mentoring (Rockoff, 2008).



Figure 2.8

Formal induction for new teachers

Percentage of lower secondary teachers who have less than three years of experience at their school and less than three years of experience as a teacher who are working in schools where the principal reported access to formal induction programmes, and the percentage of teachers with the same characteristics who reported having participated in formal induction programmes^{1,2}



1. Data on access to induction programmes are derived from the principal questionnaire, while data on participation are derived from the teacher questionnaire. Teachers were asked about their participation in an induction programme in their first regular employment as a teacher.

2. Data presented in this figure are for formal induction programmes only, meaning they do not consider participation in or access to informal induction activities as part of an induction programme or a general and/or administrative introduction to the school.

Countries are ranked in descending order of the gap between access to and participation in induction programmes. Countries are not presented in this graph if the percentage of teachers with less than three years of experience at their school and less than three years of experience as a teacher is below 5%.

Source: OECD (2013), TALIS 2013 complete database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.

StatLink <http://dx.doi.org/10.1787/888933330535>

The proportion of teachers who work in schools whose principal reported that mentoring programmes are available for all teachers is larger than the proportion of teachers who reported that they have a mentor. This suggests that not all teachers in schools with mentoring programmes for all teachers report having mentors. In some countries, however, there is a large difference between the proportion of teachers who work in schools with mentoring programmes for all teachers and the proportion of teachers who report having a mentor. School leaders need to highlight the benefits of such programmes for teachers and remove any barriers to access to ensure that teachers can participate in these activities and reap the benefits that ensue.

There are different ways in which participation in induction and mentoring programmes can be beneficial. Empirical evidence shows that students taught by teachers who receive comprehensive induction support achieve at a higher level than students taught by teachers who did not receive such support (Glazerman et al., 2010).

There is also evidence of a positive association between induction/mentoring participation and teacher self-efficacy. In 14 of the countries/economies that participated in TALIS, teachers who reported that they had participated in a formal induction programme have higher levels of self-efficacy. New teachers seem to benefit most from mentoring. For them, time spent with a mentor, participation in mentor-facilitated professional development activities, and the quality of mentors' interactions are significantly related to the teachers' self-efficacy and the development of collaborative relationships with their colleagues (LoCasale-Crouch et al., 2012).

There is a similar, positive association between participation in induction programmes in the past, and in collaborative practices and professional development later in the career, suggesting a long-term impact of induction processes.

Teachers' past participation in induction programmes improves their performance and thus might better prepare them to serve as mentors. TALIS examined the effect of having participated in induction activities in the past on the likelihood of a teacher acting as mentor in the present. The results show that in 17 countries, teachers who reported that they had participated in a formal induction programme in the past were more likely to report that they currently act as a mentor than



those who reported that they had not participated in such programmes (in the remainder of the countries, this relationship is not statistically significant). These results suggest that early policy interventions, such as, for example, participating in an induction programme during the first job, might have a long-term impact on teachers' later willingness to help other teachers to improve their teaching capacities. Box 2.4 describes an induction programme with a mentoring component in Ontario, Canada.

Box 2.4 New Teacher Induction Program in Ontario, Canada

The New Teacher Induction Program (NTIP) is seen as a step in a continuum of professional learning for teachers to support effective teaching, learning and assessment practices. It provides an additional full year of professional support so that new teachers can continue to develop the skills and knowledge needed to be effective in their work.

The NTIP consists of the following induction elements:

- orientation for all new teachers to the school and school board
- mentoring for new teachers by experienced teachers
- professional development and training.

New teachers are defined as those certified by the Ontario College of Teachers who have been hired into permanent positions – full-time or part-time – by a school board, school authority or provincial school to begin teaching for the first time in Ontario.

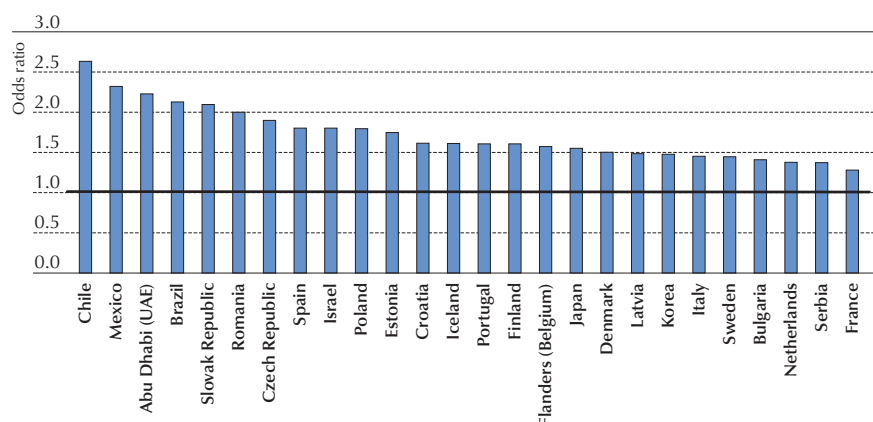
To successfully complete the NTIP, new teachers must achieve two satisfactory ratings on teacher performance appraisals for new teachers. New teachers who successfully complete two performance appraisals within the required time will receive a notation of successful completion of the NTIP on their Certificate of Qualification and Registration and on the OCT public register.

Source: Ministry of Education, Ontario, Canada.

Figure 2.9

Predicted effect of participation in a formal induction programme on participation in professional development

Probability of participation in three or more professional development activities for lower secondary teachers who reported having participated in a formal induction programme versus teachers who reported that they had not participated in such programmes¹



1. Countries for which the odds ratio is not statistically significant at 5% or where data represent less than 5% of the cases are not presented in this figure. Note: The analysis was run only for the countries that participated in TALIS 2013 in 2012-13. Thus, Georgia, New Zealand, the Russian Federation and Shanghai (China) are not included in the figure.

Countries are ranked in descending order of the predicted effect of having participated in an induction programme on the reported number of professional development activities.

Source: OECD, TALIS 2013 Database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.

StatLink <http://dx.doi.org/10.1787/888933330541>



Similarly, Figure 2.9 shows, at the country level, the predicted effect of teachers’ past participation in induction programmes on the probability of their reporting that they had participated in three or more different types of professional development activities over the preceding 12 months. Although the results should be interpreted with caution, the significant positive relationships shown in the figure could indicate that promoting induction programmes might encourage teachers’ future participation in professional development activities. Being involved in induction activities might spark teachers’ interest in remaining up-to-date in content and pedagogical knowledge by taking advantage of further learning opportunities.

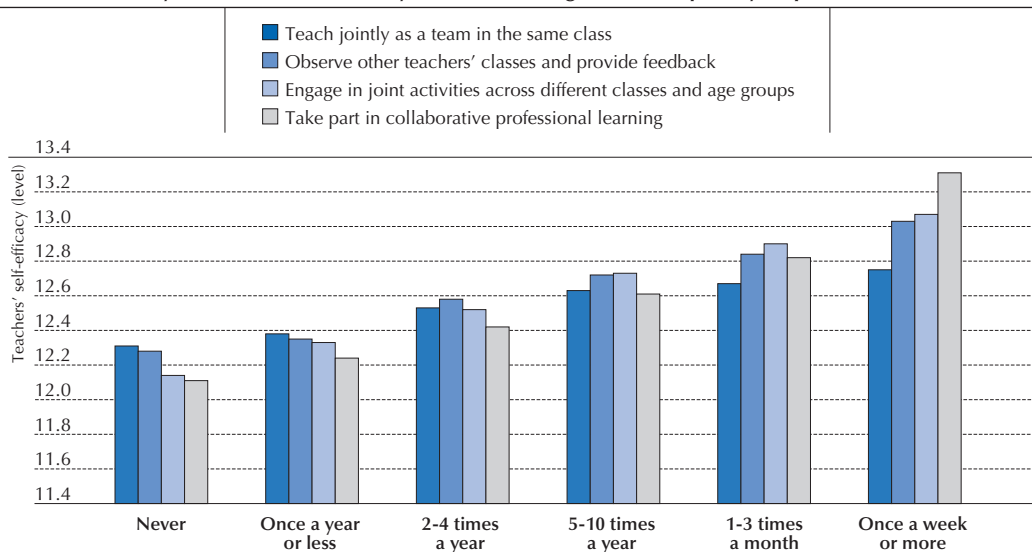
Building a collaborative school culture

Formal collaborative learning generally entails teachers meeting on a regular basis to develop shared responsibility for their students’ and school’s success (Chong and Kong, 2012). A collaborative culture can be created and nurtured in many ways (Boxes 2.5 and 2.6). Empirical evidence shows that collaboration among teachers may enhance teacher efficacy, which, in turn, may improve student achievement and sustain positive teacher behaviours (Liaw, 2009; Puchner and Taylor, 2006). In a meta-review of empirical studies, Cordingley et al. (2015) reported that collaborative professional development is related to a positive impact on teachers’ range of teaching practices and instruction strategies, to their ability to match these to their students’ needs, and to their self-esteem and self-efficacy. There is also evidence that such collaborative professional development is linked to a positive influence on student learning processes, motivation and outcomes.

Results from TALIS show that collaborative practices are related to both higher levels of self-efficacy and job satisfaction. In particular, teachers who reported that they participate in collaborative professional learning five times a year or more also reported significantly greater self-efficacy in almost all countries (Figure 2.10) and higher job satisfaction in two out of three countries. The practice most strongly related to teachers’ self-efficacy is taking part in collaborative professional learning. In almost all countries, teachers who engage in this activity five times a year or more also show higher levels of self-efficacy; in half of the countries, this relationship is moderately strong.

Figure 2.10

Teachers’ self-efficacy and professional collaboration
Lower secondary teachers’ self-efficacy level according to the frequency of professional collaboration



Source: OECD (2013), TALIS 2013 complete database, http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.
StatLink <http://dx.doi.org/10.1787/888933330558>

Many of the collaborative practices discussed in TALIS, such as observing other teachers’ classes and providing feedback or teaching as a team in the same class, could – and should – be performed at the school level. These activities serve a variety of purposes, such as providing professional development for teachers in the context within which they work or offering teachers another source of feedback on their work. School leaders need to make teachers’ schedules more flexible to allow for such practices as team teaching. The benefits of doing so are likely to outweigh any logistical burden.



TALIS data also show that challenging classroom circumstances can affect teachers' self-efficacy and job satisfaction. While class size does not show any relationship to either self-efficacy or job satisfaction, certain classroom characteristics can make a teacher's work more challenging. Teachers teaching classes where more than one in ten students are low academic achievers or have behavioural problems show significantly lower self-efficacy (in 9 and 16 of the TALIS countries/economies, respectively). At the same time, TALIS results show that the interpersonal relationships in a school have powerful mediating effects on some of the challenging classroom circumstances that teachers might face. Positive interpersonal relationships can mitigate the otherwise detrimental effects that challenging classrooms might have on a teacher's job satisfaction or feelings of self-efficacy. In addition, teachers' active engagement in research can also enhance practice in the classroom (Box 2.6) and non-governmental organisations can play an important role too (Box 2.7).

Box 2.5 Building collaborative networks within schools in the Netherlands

Aiming to improve the teaching profession and promote the excellence of education, the Netherlands recently introduced a comprehensive strategy called the Teachers' Programme ([Lerarenagenda 2013-2020](#)). The main aims of the programme are:

- attracting high-performing students into teacher training programmes
- improving teacher pre-service training programmes
- providing attractive and flexible development pathways
- developing support for teachers at the start of their careers
- developing schools as learning organisations by engaging teachers, school leaders and school boards
- helping all teachers maintain and develop their skills and qualifications
- sustaining a strong professional organisation that represents teachers.

Source: OECD (2014).

Box 2.6 The HertsCam M.Ed in Leading Teaching and Learning

The HertsCam M.Ed, a two-year master's degree programme for serving teachers and other practitioners in education, is distinctive in that it is entirely taught by practitioners currently serving as teachers in secondary and primary schools in Hertfordshire, England. These "scholar practitioners" are all graduates of the programme and some are engaged in part-time doctoral study. All have been involved in research and development both locally and internationally and have published, thus as teachers in the programme, they can draw on both their everyday professional experience and their academic knowledge.

The programme is based on the concept of "teacher-led development work" which aims to mobilise teachers and other education practitioners as agents of change regardless of their status or position. In HertsCam, development work is defined as strategic, focused, planned and deliberate attempts to improve an aspect of professional practice through incremental steps. This largely involves analysis, data collection, reflection and deliberation in collaborative contexts. A range of experiences, tools and academic resources are used to enable participants to analyse their institutional contexts, identify their professional concerns, and consult with colleagues and stakeholders to create an agenda for change. Participants then design development projects through which they take action to address their concerns.

The programme rests on seven pedagogic foundations: activities that cultivate moral purpose; participants lead development projects; communities in which critical friendship can flourish; reflection on experience through dialogue; the art of critical narrative writing through which scholarship illuminates problem solving; the use of conceptual tools that deepen understanding of how to develop practice; and professional knowledge built through local and international networking. The programme is implemented mostly in school classrooms at the end of the school day with a two-day residential conference held in a hotel each term.

The programme began with its first cohort of participants from primary and secondary schools in September 2015. HertsCam aspires to develop this as an international programme in collaboration with NGOs and other relevant organisations around the world.

Source: Frost, D. (2015).



Box 2.7 Charitable foundations as partners in the professionalisation of teachers

Since the 1990s, not-for-profit foundations have become increasingly involved in the education sector in Germany. In the past few years, various foundations have become active in promoting and rewarding innovative teachers. For example:

- The Vodafone Foundation Germany honours outstanding teachers each year with the “German Teacher’s Award”. Teachers are nominated for the award by their pupils.
- The not-for-profit Hertie Foundation offers a scholarship programme for students with an immigrant background who want to become teachers.
- The “German School Academy” of the Robert Bosch Foundation offers teachers and school leaders information on creating excellent schools based on the profiles of schools that have been honoured with the “German School Award”.
- The *Stiftung der Deutschen Wirtschaft* (German Economy Foundation) aims to promote skills development for school leaders and introduce new leadership and management concepts into teacher training through its “Leadership in Teacher Training” programme.
- The aim of the *Deutsche Telekom Stiftung* (German Telecom Foundation) is to support education, science and research in the STEM subjects. It promotes enhancement of teacher training in STEM subjects at partner universities.

Not-for-profit foundations are granted tax concessions by the state. Although foundations do not assume any sovereign tasks in the education sector, they are important initiators and multipliers of innovations in education policy, including in teacher training, and are regarded as such by federal government, *Länder* and local authorities.

Source: Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany.

Supporting a culture of student assessment

Organising professional development activities about student assessment is common practice in many countries. Gilmore (2008) makes a distinction between professional development programmes in which assessment is “foregrounded” (i.e. it is the main focus of the programme) and those programmes where assessment is “backgrounded”, (i.e. the programme does not focus on assessment, per se, but assessment is an integral part of the programme). Many countries use a mix of both.

In Australia, most jurisdictions provide training to improve the competency of teachers to analyse and interpret student-assessment data. For example, the Victorian Curriculum and Assessment Authority conducts in-service courses in schools around Victoria to develop school leaders’ and teachers’ skills in interpreting the results of the national assessments and the Victorian Certificate of Education exam (Santiago et al., 2011). In the Flemish Community of Belgium, courses on assessment are an important part of the wide range of in-service training possibilities. It is common practice for schools to invite experts on various items (e.g. student assessment) to provide training opportunities for teachers (Flemish Ministry of Education and Training, 2010). In the French Community of Belgium, professional development on assessment is also available. The subjects addressed in in-service training courses are determined based on needs identified by the *Commission de pilotage* and the Inspectorate (Blondin and Giot, 2011). In Korea, in-service training on assessment is provided as part of the national training framework. In recent years, local education offices and individual schools have also been adding new dimensions to the contents and methodology of such training (Kim et al., 2010).

New Zealand’s Ministry of Education has initiated several major professional development programmes that have been evaluated in terms of their impact on student learning, with promising results (Nusche et al., 2012). For example, “Assess to Learn” (AtoL) is a whole-school professional development programme that has been offered to primary and secondary schools since 2002. Schools apply to participate in the programme and typically participate for two years. The annual budget for AtoL is NZD 3.17 million and the programme currently involves 155 schools. The programme aims to support teachers in choosing adequate assessment tools and analysing assessment information so as to advance student learning. A 2008 evaluation of the AtoL programme reported that the programme had significant impact on teachers’ professional practice and student performance, especially among students with initially low levels of achievement. Monitoring data showed that schools participating in AtoL had achieved up to 4.5 times greater improvements in writing in grades 4 to 9 than the national expected rate of progress.



In some countries, the focus on professional development for student assessment has been considerably reinforced in recent years. In Hungary, for example, awareness-raising campaigns on assessment were held in every region in 2009. These occasions can also serve to strengthen the reputation and acceptance of assessments, and give professional impetus to make the use of the results. In Mexico, teachers are being offered a greater number of assessment-related training opportunities. Most of the programmes are targeted at school supervisors and focus on competencies-based assessment. Many subject-specific courses include new approaches, techniques and instruments for classroom-based assessment (Santiago et al., 2012). In Norway, student assessment is also highlighted as a key topic in continuing professional development. Since 2005, the Directorate for Education and Training has included student assessment as one of the annual priorities for continuing professional development of teachers, school leaders and trainers of in-service training providers (Nusche et al., 2011).

Professional development can also take place through moderation of teachers' assessment and marking. Moderation refers to quality-assurance measures that seek to increase the consistency of marking by, for example, having teachers within or across schools review or cross-mark each other's assessments or work together in groups to discuss assessment criteria and student performance. Moderation is a key strategy in validating the consistency of teachers' judgements and marking. At the same time, moderation also involves professional discussions among teachers about the quality of student work. As such, it is a professional learning opportunity that is closely related to their classroom practices. It also helps to improve teachers' professional judgements about student work and helps them to develop a shared understanding of marking criteria or standards within and among schools (Timperley et al., 2008).

Professional learning may also provide opportunities for teachers and schools to network with each other or with assessment advisors and disseminate effective practice. In Norway, the Better Assessment Practices project (2007-09) supported a range of local projects to improve assessment practice in Norwegian schools. As a follow-up, the Assessment for Learning programme (2010-14) was implemented to support school projects and networks focusing on formative assessment. There are also local initiatives in this area. The City of Oslo, for example, employs two "assessment advisors" whom schools can invite to provide help regarding assessments (Nusche et al., 2011). In Denmark, resource teachers in schools support teachers. Although there are few assessment and evaluation advisors (only 8% of schools reported having these), they can offer critical support to teachers whose initial training did not emphasise student assessment and evaluation (Shewbridge et al., 2011). In Canada, all school boards have created assessment divisions or sectors within their administrative structure and have assigned personnel to lead workshops, develop activities related to assessments, and track, collate, analyse and distribute findings of district-wide assessments to their respective stakeholders (Fournier and Mildon, forthcoming).

However, while there are professional development opportunities in the area of student assessment in most countries, there is often little information available at the central level about the extent to which teachers benefit from them and about the quality of courses available. In education systems where schools and teachers are free to determine the content of their professional development courses, it is often unclear to what extent teachers choose to improve their student-assessment methods through such courses.

Strengthening links between teacher appraisal and professional development

Teacher appraisal, part and parcel of effective teacher policies, will deliver best results if it is linked to professional development. In order for a vibrant programme of professional development to be established and sustained, it must be based on a culture of professional inquiry and on the professional obligation of every teacher to be engaged in a career-long quest to improve practice.

A key objective of teacher appraisal is to identify areas for professional development for individual teachers, leading to the preparation of individual improvement plans that take into account the school's development plan. Pedagogical leadership at the school level plays a key role in ensuring the effectiveness of this link (Pont et al., 2008).

Information collected from countries participating in the OECD Reviews on Assessment and Evaluation in Education (OECD, 2013b) indicates that all types of teacher appraisal, except explicit reward schemes, may influence future professional development activities (Table 2.2). Regular teacher appraisal as part of performance management is most typically associated with professional development activities or plans. It systematically influences professional development in Australia, Korea, Mexico and Northern Ireland (United Kingdom) and it is expected/intended to do so in Austria, the Flemish Community of Belgium, some provinces/territories in Canada, France, Israel, the Netherlands, New Zealand and Slovenia.



The Teacher Performance Appraisal system in the Canadian province of Ontario, for example, has two components: one for “new” teachers and one for “experienced” teachers. Experienced teachers undergo a comprehensive performance appraisal, conducted by the principal, and are evaluated according to 16 competencies that define the skills, knowledge and attitudes of effective teaching. Experienced teachers are appraised once every five years. In addition, they set goals for continuous learning and improvement through the completion of an Annual Learning Plan each year. Appraisals of new teachers focus on eight of the 16 competencies. New teachers must be appraised at least twice in the first 12 months of teaching. New teachers who receive two satisfactory ratings during their new teaching period receive a notation on their Certificate of Qualification from the Ontario College of Teachers (Ministry of Education, Ontario, Canada).

In Chile, teacher appraisal systematically results in a professional development plan for teachers who have obtained a “basic” or “poor” rating; in Portugal, this is the case for teachers who have obtained an “insufficient” rating. In the Czech Republic, Hungary, Poland and the Slovak Republic, the link between regular appraisal for performance management and professional development is not prescribed nationally, but it may well exist at the school level. Practices vary across schools, depending on internal regulations.

Table 2.2

Influence of teacher appraisal on professional development (2011-12)
Percentage of lower secondary principals who reported having received leadership training in their formal education¹

	Completion of probation	Performance management		
		Regular appraisal	Registration	Promotion
It systematically influences professional development activities	Northern Ireland (UK)	Australia, Chile, ² Korea, Mexico, Portugal, ² Northern Ireland (UK)	Australia	Czech Republic ³
It is expected/intended to influence professional development activities	Australia, Canada, Ireland, Israel, Netherlands, New Zealand	Austria, Flanders (Belgium), Canada, France, Israel, Netherlands, New Zealand, Slovenia	New Zealand	Israel
It may influence professional development activities, depending on school policies and practices	Slovak Republic	Czech Republic, Hungary, Poland, Slovak Republic	--	--
It does not influence teacher professional development	France, ¹ Italy, Luxembourg, Slovenia	--	Sweden	Estonia, Korea, Poland

1. France: But a negative appraisal may result in a second year of *stage*.

2. Chile, Portugal: It systematically results in a professional development plan for teachers who have obtained a low rating only.

3. Czech Republic: It influences professional development if connected with promotion to particular professional status.

Note: Derived from information supplied by countries participating in the project. The table should be interpreted as providing broad indications only, and not strict comparability across countries.

Source: OECD (2013), *Synergies for Better Learning: An International Perspective on Evaluation and Assessment*, <http://dx.doi.org/10.1787/9789264190658-en>.

Appraisal at completion of probation also influences professional development in Northern Ireland (United Kingdom), and it is expected to do so in Australia, some provinces/territories in Canada, Ireland, Israel, the Netherlands and New Zealand. Registration systematically influences professional development in Australia and is expected to do so in New Zealand. The promotion scheme in Israel is also expected to inform future professional development. In the Czech Republic, appraisal for promotion influences professional development if it is related to accession to a particular professional status, such as that of pedagogical advisor.

A link between performance appraisal and continuing professional development opportunities is essential to improve teaching practice (Ofsted, 2006). Identifying individual teachers’ strengths and weaknesses is crucial for choosing from among a wide range of possible professional development activities those that meet individual teachers’ own needs against each of the priorities in the school-improvement plan. It is important that teachers regard appraisal as the first step towards improved practice, regardless of their current level of performance.

However, among the teachers participating in TALIS, over 40% reported that they did not receive suggestions for improving aspects of their work; 44% agreed with the statement that teachers’ work was reviewed merely to fulfil an administrative requirement. Also, according to principals’ reports, only 56.6% of teachers were in schools where the identification of a specific weakness in a teacher’s practice always or most of the time leads to establishing a professional development plan for the teacher.



These are worrying results. Without a clear link to professional growth opportunities, the impact of teacher appraisal on teaching and learning will be relatively limited. As a result, the appraisal process may not be taken seriously or may be treated with mistrust or indifference by the teachers being appraised. Ideally, teacher appraisal should allow teachers to receive tailored feedback, and such feedback should be followed with opportunities for continuous learning.

Teachers' learning should also be thought of as something broader than participation in in-service training courses. According to Timperley (2011), the term "professional development" is now often associated with the delivery of some kind of information to teachers in order to influence their practice. By contrast, "professional learning" refers to a more internal process through which teachers create professional knowledge by interacting with this information in a way that challenges previous assumptions and creates new meanings. Such professional learning cultures need to be supported and sustained by effective pedagogical leadership. All teachers, including those who are highly effective, need opportunities to learn and grow in the teaching profession. Box 2.8 provides examples of how appraisal results are used for professional development in Korea and in Memphis, Tennessee, in the United States. Box 2.9 highlights ways to involve teachers in this process.

Box 2.8 Linking teacher appraisal to professional development

In **Korea's** Teacher Appraisal for Professional Development programme, once appraisal procedures are completed, evaluation sheets are collected and drafted into a final report for each teacher. Results of the peer-review process are written up by "appraisal-management committees" at each school. Upon receiving their appraisal results report, teachers prepare their own plans for professional development (including plans to attend training) and submit these to the appraisal-management committee. The committee brings together the professional development plans and the appraisal results of all appraised teachers, and drafts a "synthetic report on Teacher Appraisal for Professional Development" to submit to the principal and vice principal. The synthetic report must include: implementation plan and progress of appraisal; overall appraisal results (excluding results for individual teachers); general features of appraisal (appraisal provided by parents, students and peer teachers; strengths and weaknesses of the school's teachers as revealed by appraisal); teachers' demand for training, including autonomous in-service training; fields of training requested by the teachers; the school's next-year plans to provide consulting and training programmes for teachers' professional development; budget estimation; and proposals and requests to the local education authority (demands for the establishment of new training programmes, requests for budget support for in-service training by the education office, etc.).

Based on the appraisal results, local education authorities provide excellent teachers with a "study and research year" (similar to sabbatical years given to university faculty) as a way of granting opportunities for teachers to build their professional capacity. Underperforming teachers are obliged to participate in short- to long-term training programmes, depending on their appraisal results. Regardless of appraisal outcomes, local education offices support teachers with customised training programmes so as to foster an atmosphere of self-study and self-improvement among teachers. Individual appraisal reports are shared only with the concerned teacher and principal. Only the average results of all teachers appraised in a school are disseminated among parents and students.

The city of **Memphis in Tennessee (United States)** has developed a system that explicitly links professional learning to teacher appraisal. In Memphis city schools, appraisal is based on teaching standards, and professional development is linked to teachers' competence measured against those standards. Thus, a teacher who shows poor performance on a specific indicator of a teaching standard can find professional growth opportunities related to that indicator. Memphis city schools publish a professional development guide each year that lists the professional growth offerings by standard and indicator. In addition, most of the professional development courses are taught by Memphis city school teachers, ensuring that the course offerings will be relevant to the contexts in which these teachers work.

Sources: Kim et al. (2010); Memphis City Schools, www.mcsk12.net; Santiago et al. (2013).

Teacher appraisal and feedback can be used to recognise and celebrate teachers' strengths while simultaneously challenging teachers to address weaknesses in their pedagogical practices. Appraisal and feedback can have a significant impact on classroom instruction, teacher motivation and attitudes, as well as on student outcomes. Specifically, appraisal and feedback can play an important role in teachers' job satisfaction and self-efficacy. Whereas teachers say they derive little value from student ratings, teacher-solicited feedback is generally regarded as the most useful source of information for improving teaching (Wininger and Birkholz, 2013; Ross and Bruce, 2007; Michaelowa, 2002).



Box 2.9 Involving teachers in creating a culture of evaluation

Involving teachers in school policies and practices is an essential component of modern education governance. This is especially important in practices and policies around evaluation and assessment, both in building a culture of evaluation in the system and in incorporating a broader perspective in decisions about what does and does not work. Yet devising the policies is just the first step; implementation and ownership by teachers are critical to their success.

Poland, for example, introduced a new school-supervision process in 2009 in which practitioners were more directly involved in the evaluation process. This supervision system reinforced collaboration and self-assessment among educators, and changed the role of school inspectors and chief inspectors. Key elements of success included providing comprehensive information to the teachers as well as to school leaders and inspectors. This involved clearly defining goals, steps to achieve the goals and development plans. Interestingly, it was the schools that had some familiarity with restructuring – for example, some schools had previously implemented an inter-school quality-assurance system that involved the entire school community – that were initially most receptive to the reform. In these schools, a significant part of the teaching staff eagerly participated in trainings provided by the new school-supervision system.

Similarly, **Norway's** implementation of the Assessment for Learning (AfL) programme aimed to motivate authorities, schools and training establishments to develop a culture of assessment with a strong focus on learning. Not surprisingly, the municipalities that most successfully implemented the programme demonstrated clear communication between governance levels and a high degree of trust among stakeholders. On the local level, the establishment of learning networks among schools aided the exchange of knowledge and provided peer support during the implementation. Integrating teachers in the change process (e.g. by organising pre-planned visits to classrooms), and a willingness to adapt the implementation strategy to local contexts greatly facilitated the implementation and acceptance of the programme in schools.

These examples show some of the common elements required for successful policy implementation: communication, collaboration, and a willingness to take part in the change process. Establishing a set of shared priorities is also important, especially for smaller municipalities or schools that might feel overwhelmed by a number of different reforms and policy priorities that are taking place at the same time. However, building a culture of evaluation has its own specific challenges. One of the biggest initial barriers is a lack of trust: trust in what is being communicated, and also trust that evaluation could be used for improvement rather than punitively. The most successful systems work on all of the elements together, to steer the system, build trust, and use the strength and expertise of their schools and teachers to make reform happen.

Sources: Mazurkiewicz et al. (2014); Hopfenbeck et al. (2013).

LEADING CHANGE FROM THE CLASSROOM

Linking professional autonomy with a collaborative culture

PISA 2012 asked school principals to report how frequently various actions and behaviours related to managing their school, including teacher participation in school management, occurred in the previous academic year. On average across OECD countries, 72% of students are in schools whose principals reported that the school gives staff opportunities to make decisions concerning the school at least once a month; 54% are in schools that give these opportunities from once a month to once a week; and 18% are in schools that give these opportunities more than once a week. Over 80% of students in Australia, Brazil, Canada, Chile, Colombia, Denmark, Finland, Germany, Iceland, Jordan, New Zealand, Norway, Portugal, Sweden, Thailand, Turkey and the United States attend schools that give staff these opportunities at least once a month; while in France, Liechtenstein, Luxembourg, Macao (China), Poland, Romania and Shanghai (China), less than 50% of students attend such schools.

Across OECD countries, an average of 70% of students are in schools whose principal reported that teachers are involved at least once a month in building a culture of continuous improvement in the school; 47% of students are in schools where this occurs once a month to once a week; and 23% are in schools where this occurs more than once a week. Over 80% of students in Australia, Brazil, Canada, Chile, Denmark, Germany, Indonesia, Jordan, Latvia, Liechtenstein, Malaysia,



New Zealand, Portugal, Singapore, Slovenia, Sweden, Thailand, Turkey, the United Arab Emirates, the United Kingdom, the United States and Uruguay attend schools where teachers are involved in this activity at least once a month; while in France, Japan, Luxembourg, Macao (China), Romania and Shanghai (China), less than 50% of students attend such schools.

On average across OECD countries, 29% of students are in schools whose principal reported that teachers are asked to review management practices at least once a month; 24% are in schools where teachers do so once a month to once a week; and 6% are in schools where teachers do so more than once a week. Over 50% of students in Albania, Australia, Brazil, Bulgaria, Indonesia, Jordan, Kazakhstan, Korea, Malaysia, Montenegro, Thailand, Turkey, the United Arab Emirates, the United Kingdom and the United States attend schools where teachers participate in this activity at least once a month; while in France, Hungary, Luxembourg, Shanghai (China) and Switzerland, around 10% or less of students attend such schools.

Results from PISA suggest that the relationship between school autonomy and student performance is affected by whether there is a culture of collaboration between teachers and principals in managing the school. The results show that, in school systems where principals reported less teacher participation in school management (i.e. 1.5 index points lower on the PISA *index of teacher participation* than the OECD average), even after students' and schools' socio-economic status and demographic profile are taken into account, a student who attends a school with greater autonomy in allocating resources tends to score 17 points lower in mathematics than a student who attends a school with less autonomy. In contrast, in school systems where principals reported more teacher participation in school management (i.e. 1.5 index points higher than the OECD average), a student who attends a school with greater autonomy scores 9 points higher in mathematics than a student who attends a school with less autonomy. In short, school autonomy combined with a culture of participatory leadership tends to be associated with better learning outcomes.

Involving teachers in developing professional standards

Another way to draw on the expertise in the classroom to build professional knowledge is to involve teachers in the development of professional standards. Indeed, for teaching standards to be relevant and owned by the profession, it is essential that teachers play a lead role in developing and taking responsibility for them. The participation of teachers in designing standards and procedures for teacher appraisal is essential to the effectiveness of any appraisal system. Inviting teachers to participate is a way of recognising their professionalism, the importance of their skills and experience, and the extent of their responsibilities. Teachers will be more open to being appraised if they are consulted in the process. Thus appraisal-system designers need to work with teachers' unions, teacher professional organisations and outstanding teachers from across the system. Australia and New Zealand provide some examples of this (Box 2.10).

Box 2.10 Involving the teaching profession in developing professional standards

In **Australia**, up until 2012 there were two types of teaching standards. First, each jurisdiction's statutory teaching body developed its own set of teaching standards to register teachers and accredit initial teacher-education programmes. Second, a number of education authorities also developed distinct professional standards for teachers (e.g. South Australia, Victoria, Western Australia) which generally provided the reference for performance-management processes and established links to the career structure. One of the system's strengths lies in the extensive involvement of the teaching profession, employers and teacher educators in developing teaching standards for registration/accreditation. Teaching colleges/institutes as independent statutory bodies provide teachers with professional autonomy and self-regulation and the right to have a say in the development of their profession. This reinforces the use of standards as a lever for improving teaching practices. In this context, a particularly significant development was the creation of the Australian Institute for Teaching and School Leadership (AITSL), whose aim is to establish a nationally shared understanding of what counts as accomplished teaching and school leadership. A significant achievement since the Institute was created in 2010 was the development of the Australian Professional Standards for Teachers (formerly known as the National Professional Standards for Teachers), which provides a national measure for teaching practice. The standards were developed in close consultation with the teaching profession, employers and teachers' educators, and are implemented across the country.

The **New Zealand** Teaching Council (NZTC) has developed teaching standards for registering teachers (the Registered Teacher Criteria) and for accrediting initial teacher-education programmes (the Graduating Teacher Standards),

...



which form the basis for provisionally registering teachers. The Registered Teacher Criteria describe the standards for quality teaching that are to be met by all fully registered teachers and guide the learning of provisionally registered teachers. The Registered Teacher Criteria focus on student learning outcomes, including teachers' analysis and use of student-assessment information, and the bicultural context in New Zealand. The NZTC, as the professional body of teachers, holds the leading role in defining standards for the profession, with the extensive involvement of the teaching profession, employers and teachers' unions.

Sources: Santiago et al. (2011); Nusche et al. (2012).

Strengthening teacher leadership

Teachers in many countries are looking for more leadership opportunities, for leading change and not just managing what is demanded of them. In the United States, the most recent Metlife survey of teachers revealed that high numbers of teachers are eager for more leadership opportunities, even though they did not want to be principals (Markow, Macia and Lee, 2013). A study commissioned by Education International has also established a link between teacher self-efficacy and teacher leadership, and sets out proposals for a systemic approach to teacher leadership (Bangs and Frost, 2012).

By initiating improvement and innovation in schools, teacher leadership develops teachers' competence and confidence as educators, advances their professional learning, promotes change and improvement in schools, encourages professional collaboration and collegiality, and boosts professional status and recognition. In doing so, teacher leadership helps to maintain and improve teachers' commitment, self-efficacy and morale. The Ontario leadership and learning programme, the Chartered Teachers initiative in Scotland, and Teach to Lead in the United States provide just a few examples of how to organise such initiatives (Boxes 2.11, 2.12 and 2.13).

Box 2.11 The Ontario Teacher Leadership and Learning Programme

The Ontario Teacher Leadership and Learning Programme is an eight-year initiative, launched in 2007, to support teachers' self-directed professional development and leadership skills, and to help them share these skills with colleagues through conferences and storefronts, a virtual platform, and in collaborative activities within each school involved. The programme, developed in partnership between the Ontario Teachers' Federation and the Ontario Ministry of Education, rests on teachers designing and evaluating their own innovations and sharing what they have learned. It is particularly targeted at teachers who have been in the profession for more than four years. Each funded project lasts 18 months, and hundreds of teachers have participated in the programme.

An evaluation found that over 70% of the respondents reported that they have acquired new knowledge, improved their own practice, and developed leadership skills in facilitation and project management. Over half believed that they had increased their self-efficacy, and evaluators concluded that this percentage would be even higher if projects lasted longer and were more deliberately integrated into other schools or wider development programmes and initiatives.

Source: Campbell, Lieberman and Yashkina (2014).

Box 2.12 The Chartered Teachers initiative in Scotland

In 2006, Scotland recognised a new professional category of teachers, known as Chartered Teachers. Chartered Teacher status, earned through programmes of study and projects undertaken in teachers' own schools, aimed to recognise and reward the excellence, and encourage the continuous professional learning, of those teachers who wished to remain classroom teachers. After the completion of the qualification, teachers received a significant and lifelong salary increase. The programme was hugely popular; but in the climate of austerity pervasive in the country in subsequent years, local authorities found that the costs of the scheme were too much of a strain on their budgets. Following one of the recommendations of Teaching Scotland's Future, the Chartered Teacher scheme was discontinued in 2012.

Source: OECD (2015a).



Box 2.13 Teach to Lead in the United States

Teach to Lead (TTL) is an initiative of the US Department of Education (ED), the National Board for Professional Teaching Standards (NBPTS) and the Association for Supervision and Curriculum Development (ASCD) to advance student outcomes by expanding opportunities for teacher leadership, particularly those that allow teachers to stay in the classroom. The initiative seeks to highlight existing state and district systems that are working to support teacher leadership; share resources to create new opportunities for teacher leadership; and encourage people at all levels to commit to expanding teacher leadership.

TTL involves stakeholders at every level of education in leveraging the expertise and insight of classroom teachers. To create transformational change at the local level, TTL hosts regional Teacher Leader Summits and smaller Teacher Leader Labs in selected communities identified as having great potential for teacher leadership to take root or expand for greater impact. These meetings help to solidify stakeholders' commitment to teacher leadership and to develop detailed plans of action to achieve this goal. The initiative has engaged with more than 3 800 educators, in person and on line, and given voice to more than 875 teacher-leadership ideas in 42 states. It has helped teachers to create over 150 action plans to implement improvement projects, developed and led by teachers, to effect change at the school, district, state or national level.

Participating communities have benefitted from broad support at the local level, from open and candid dialogue about teacher leadership, and from national recognition for their work from ED, ASCD and the National Board.

Source: <http://teachtolead.org/>.

There are many other efforts to improve the quality of teachers and teaching through teacher leadership. The Norwegian GNIST initiative example (GNIST is Norwegian for “spark”) is another. This national partnership between the Ministry of Education, the main stakeholders and municipalities/counties aims to increase the quality and status of the teaching profession, teacher education and school leadership. An annual teacher-recruitment campaign is a main component of the plan.

In England, the National College for Teaching and Leadership, inaugurated in 2013, is a government agency created by merging two existing bodies that worked towards school leadership and teachers' development. It aims to support development of the education workforce by creating a school-led, self-improving education system. A similar government body, the Scottish College for Educational Leadership, is being established in Scotland to provide support and coherence to leadership development across the education system at all levels of responsibility.

Engaging teachers in education reform

Inviting teachers and school leaders to contribute to the development of education reforms is likely to facilitate the implementation of those reforms. Kennedy (2005) argues that highly dedicated teachers reject reform not because they are unwilling to change or improve, but because of “the sad fact that most reforms don't acknowledge the realities of classroom teaching”. Some believe that imposed change creates a “culture of compliance” (Datnow and Castellano, 2000; Leithwood et al., 2002). Chapter 3 discusses, in particular, the importance of involving teachers and school leaders in the development of the appraisal processes that will be used to assess their own performance. Box 2.14 describes how a project in the Netherlands taps into teachers' own internal motivation to improve their performance.

Box 2.14 Schools have the Initiative project in the Netherlands

The Netherlands's Schools have the Initiative (*School aan Zet*, 2012) programme aims to leverage teachers' internal motivation to become more effective by developing skills in six areas: results-oriented work, human-resource management/learning organisation, basic skills, dealing with differences among students, gifted students, and science and technology.

Participation in this programme is voluntary and begins with schools defining their own goals and ambitions. With the help of experts to set objectives, schools can conduct three sessions, known as ambition conversations, and three evaluation conversations to monitor achievements in line with their own expectations. The programme also encourages schools to apply for funding that can be used to invite independent experts and “critical friends” to participate in these conversations. There are no specific reporting requirements connected to the funding.

Source: OECD (2014b).



Using technology

Information and communication technology (ICT) has revolutionised virtually every aspect of life and work. Students unable to navigate through a complex digital landscape will no longer be able to participate fully in the economic, social and cultural life around them. Those responsible for educating today's "connected" learners are confronted with challenging issues, from information overload to plagiarism, from protecting children from online risks such as fraud, violations of privacy or online bullying to setting an adequate and appropriate media diet. Schools are expected to help educate children to become critical consumers of Internet services and electronic media, to make informed choices and avoid harmful behaviours. Teachers and parents are also expected to raise awareness about the risks that children face on line and how to avoid them.

And yet, analyses from PISA show that the reality lags considerably behind the promise of technology. In 2012, 96% of 15-year-old students in OECD countries reported that they have a computer at home; but only 72% reported that they use a desktop, laptop or tablet computer at school, and in some countries fewer than one in two students reported doing so. And even where computers are used in the classroom, their impact on student performance is mixed, at best. Students who use computers moderately at school tend to have somewhat better learning outcomes than students who use computers rarely. But students who use computers very frequently at school do a lot worse in most learning outcomes, even after accounting for social background and student demographics (OECD, 2015b).

The results also show no appreciable improvements in student achievement in reading, mathematics or science in the countries that had invested heavily in ICT for education. And perhaps the most disappointing finding of the report is that technology is of little help in bridging the skills divide between advantaged and disadvantaged students (OECD, 2015b). Put simply, ensuring that every child attains a baseline level of proficiency in reading and mathematics seems to do more to create equal opportunities in a digital world than can be achieved by expanding or subsidising access to high-tech devices and services.

One interpretation of all this is that building deep, conceptual understanding and higher-order thinking requires intensive teacher-student interactions, and technology sometimes distracts from this valuable human engagement. Another interpretation is that teachers have not yet become good enough at the kind of pedagogies that make the most of technology; that adding 21st-century technologies to 20th-century teaching practices just dilutes the effectiveness of teaching.

Technology allows teachers and students to access specialised materials well beyond textbooks, in multiple formats, with few constraints in time or space. It offers innovative platforms for collaboration in knowledge creation, where teachers can share and enrich teaching materials. Perhaps most important, technology can support new pedagogies that focus on learners as active participants with tools for inquiry-based pedagogies and collaborative workspaces. For example, technology can enhance experiential learning, foster project-based and inquiry-based pedagogies, facilitate hands-on activities and co-operative learning and deliver formative real-time assessments. It can also support learning and teaching communities with new tools, such as remote and virtual labs, interactive, non-linear courseware based on state-of-the-art instructional design, sophisticated software for experimentation and simulation, social media and serious games.

To deliver on the promises technology holds, countries will need a convincing strategy to build teachers' capacity to use these tools; and policy makers need to become better at building support for this agenda. Given the uncertainties that accompany all change, educators will always opt to maintain the status quo. To mobilise support for more technology-rich schools, education systems need to become better at communicating the need and building support for change. Investing in capacity development and change-management skills will be critical, and it is vital that teachers become active agents for change, not just in implementing technological innovations, but in designing them too. Box 2.15 describes a programme to fund digital technology and learning tools – and professional development for the teachers using them – in Ontario, Canada.

A school budget for training can allow schools with articulated policies for integrating ICT in teaching to put in place more economical and effective professional development at the school level. Such a budget may, for example, allow schools to organise training sessions for all teachers who use interactive whiteboards. Neighbouring schools can also organise joint training sessions for using interactive whiteboards for specific subjects if one school does not have enough teachers who teach these subjects.

Australia and England (United Kingdom) have introduced "middle-management" positions within schools that give some teachers a lead role in some subject or programme area of the school. One of these areas could be using ICT in the classroom.



Fellowship programmes can also provide recognition for lead teachers without creating permanent and formal leadership positions. Experience as a “lead user” or “ICT champion” can be considered an important asset when identifying school leaders; that will give teachers an extra incentive to take on this role.

While peer learning is an effective mode of professional development, formal in-service training is also valuable, particularly when teachers have opportunities to practice what they have learned in the training. However, this form of training tends to be more costly, both for the public purse and in terms of time and energy for schools and teachers.

Box 2.15 21st-Century Teaching and Learning Strategy in Ontario, Canada

Through its Technology and Learning Fund (TLF), Ontario is investing CAD 150 million over three years in digital technology and learning tools as well as professional learning for educators. School boards must use their TLF funding to support deeper learning by: creating more teacher-student learning partnerships through real-world, authentic learning tasks enabled by technology; providing more opportunities for peer-to-peer learning through technology; developing and providing professional learning about new assessment practices that reflect deep learning pedagogy; and providing opportunities to develop new learning partnerships among educators through technology in addition to face-to-face professional development.

The TLF includes funding for boards to engage in 21st-century innovation research projects that are developing deeper learning teaching practices. School boards have been scaling up these practices over the past four years. The fund also provides additional funding to support a Technology Enabled Learning and Teaching (TELT) contact in every school board. Their core work is to advance the transformation of learning and teaching in a physical and virtual environment.

Ontario is also committed to defining 21st-century competencies, such as critical thinking, communication, collaboration, creativity and entrepreneurship, to inform curriculum renewal. To this end, the Ontario Ministry of Education has developed a draft 21st-century Competencies Foundation Document summarising the international and Ontario research on deeper learning and 21st-century competencies. In addition, Ontario is working with provinces across Canada to identify pan-Canadian 21st-century competencies.

Source: Ministry of Education, Ontario, Canada.



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