

Chapter 4. Promoting powerful professional learning for school staff

Professional learning for teachers, school leaders and other staff is essential to prepare students for success in a rapidly changing world. The chapter first addresses initial teacher preparation, from initial education to induction. Next, it embeds teacher learning, often defined narrowly as professional development, as part of larger continuing adult learning processes in schools. The chapter highlights the particular potential of evaluation to serve as a formative tool for most teachers and leaders. Recognising the centrality of school leadership for quality teaching and learning, the chapter devotes a separate section to leadership capacity development, from principals and middle leaders to teachers. The chapter documents the importance of moving beyond simplified models for improvement to consider professional learning as an evolutionary process. It concludes with a series of policy options that school systems may consider valuable.

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.

Creating a professional learning environment in which teachers, school leaders (and other school staff) feel individually and collectively supported is essential to unleash their potential to realise the transformative impacts of highly effective teaching, school leadership and student support. Professional learning opportunities for teachers and school leaders are also essential to support evolving educational goals and the learning required for students to succeed in a rapidly changing world.

As highlighted in Chapter 1, the United Nations 2030 Agenda for Sustainable Development “calls for education that goes beyond the transfer of knowledge and desirable behaviours by focussing on multiple perspectives – economic, ecological, environmental and sociocultural – and by developing empowered, critical, mindful and competent citizens” to address complex sustainability issues (UNESCO, 2016^[1]).

The OECD Learning Framework 2030 articulates environmental, economic and social challenges that imply broader educational goals. These future-oriented learning goals include supporting students to master technological advances that are critical to current learners’ success in the 2030 labour market, but just as importantly the ways of thinking and being necessary to adapt to uncertainty, change and nuance. Students must develop a sense of individual and collective well-being as well as an independent sense of agency (OECD, 2018^[2]).

Powerful and sustained professional learning begins by preparing cohorts of teachers and leaders who are ready for the particular context in which they will work with rigorous and applied preparation programmes that require demonstration of in-classroom teaching or in-school leadership skills. It continues through the early years of new teaching and leadership roles through successful induction and mentorship that promotes rapid learning and skill development in the setting where educators will do the work – schools.

Professional learning does not end after the initial years in a new position. Developing curricular, pedagogical, student support and leadership skills in a school are the shared and ongoing responsibilities of its teachers and school leaders. Schools must increasingly embrace processes that structure the school as a place where professional learning is an ongoing part of the day-to-day work of the organisation, where teachers and school leaders (and other types of staff) work collaboratively to help each other learn, where systems exist to capture and codify knowledge, and where explicit supports develop leadership among all adults. Where professional learning emerges from evaluation, systems should be designed to ensure that it accomplishes its growth-oriented intent.

Despite different efforts to address the preparation, professional development and evaluation of teachers and leaders over the past three decades, many questions remain unanswered about the most effective strategies. This chapter documents the importance of moving beyond simplified models for improvement to consider professional learning as an evolutionary process.

The chapter first addresses strategy and process improvements to initial teacher preparation, from initial education to induction. Next, it embeds teacher learning, often defined narrowly as professional development, as part of larger ongoing continuing adult learning and improvement processes in schools. While the chapter recognises evaluation and appraisal processes as part of the overall process to continuously improve, the chapter highlights the particular potential of evaluation to serve as a formative developmental tool (rather than just an accountability mechanism) for most teachers and leaders.

In recognition of its centrality for quality teaching and learning, the chapter devotes a separate section to leadership capacity development, from principals and middle leaders to

teachers. The chapter concludes with a series of policy options that school systems may consider valuable, while recognising that local policy will need to be adapted to the particular needs of an education system. Given the challenges in design and implementation of appraisal and evaluation, the chapter provides specific policy options also for this area of human resource policies.

4.1. Initial teacher preparation

Concerns that entrants into initial teacher education are under-skilled compared to those in other higher education programmes have often been a central part of policy discussions to raise the quality of school education. However, as discussed in Chapter 2, academic skill level is not the primary differentiating factor for teachers in top-performing school systems, and the best causal evidence suggests that these sort of criteria are not what makes teachers most effective at improving student outcomes. Therefore, other approaches for improving initial teacher preparation seem to be necessary besides simply changing the type of people who enter teacher education.

4.1.1. Understanding initial teacher preparation as a complex system and as part of a continuum

A recent OECD report on initial teacher preparation highlights that evidence on effective teacher education is growing, but far from clear-cut and conclusive (see Box 4.1 for challenges and strategies identified in the study) (OECD, 2019^[3]).¹ The report, nevertheless, suggests to understand initial teacher preparation both as a complex system and as a continuum of professional growth and development.

Understood as a continuum, initial teacher preparation comprises initial or pre-service education, but also preparation during the first years of teaching be it through formal induction or formal or informal mentoring. Initial teacher preparation should thus provide beginning teachers with a coherent learning experience across coursework, practical training, induction and early career professional development.

This requires a vision of teachers as learners and requires a system that allows them to fulfil their potential as professionals that continuously question their practice, develop their own educational ideals and strengthen their conceptions of equity and social justice; a recognition of the relevance of learning that takes place after initial preparation; and a move beyond the theory and practice divide. It also firmly broadens the range of actors, with schools (and leaders, teachers, mentors, but also parents and students) playing an important role for initial preparation (e.g. during teacher practice and induction).

As a complex system, initial preparation is shaped by the interactions of different agents including people, organisations and material artefacts (such as curricula and accreditation requirements). While most student teachers, teacher educators and researchers belong to the tertiary education system, most teacher mentors, school leaders and policy makers operate in the school system. Positive feedback loops can then play an important role in driving change as can cross-institutional and multilevel partnerships to build a coherent initial preparation system that engages different stakeholders.

Schools often have little say over the design of initial education programmes, whereas initial education institutions often have little influence over the design of school induction programmes and other support schemes provided to beginning teachers. A coherent approach to initial preparation would involve collaboration between both to provide an authentic and reflective practical training and induction experience. Strong partnerships

would go beyond regular discussions between schools and tertiary institutions on operational issues such as practical training placements, and also include the joint design, evaluation and improvement of programmes. This requires dedicated time, sustainable funding, and professional responsibility, agency and trust (OECD, 2019^[3]).

The following discusses lessons learned from OECD reviews to develop high-quality initial teacher preparation systems, from initial education to preparation and support during the first years.

Box 4.1. A Flying Start: Improving Initial Teacher Preparation Systems

Drawing upon resources produced by the OECD Initial Teacher Preparation (ITP) study, the report *A Flying Start* aims to support stakeholders in designing and sustaining initial teacher preparation systems. The report describes some key challenges identified by the reviews and proposes strategies for different levels of the system:

How to ensure an evidence-informed, self-improving initial teacher preparation system?

- Supporting rigorous and relevant research on initial teacher preparation (ITP).
- Introducing accreditation that incentivises ITP institutions to build their own evidence and implement a continuous improvement approach.
- Fostering the dissemination and utilisation of evidence throughout the system.

How to ensure a balanced teacher workforce?

- Using diversified longitudinal ITP data in actively forecasting workforce needs.
- Raising the status of teaching and teacher education.
- Attracting, selecting and hiring “the right candidates”.

How to equip teachers with updated knowledge and skills?

- Providing a coherent and comprehensive initial teacher education curriculum.
- Continuously integrating new evidence and models of teaching and learning in ITP curricula.
- Aligning initial teacher education content with the school context and curriculum.
- Teaching teachers in line with emerging evidence and new models – the role of teacher educators.

How to provide integrated early professional development for new teachers?

- Offering extensive opportunities for teacher learning in grounded practice.
- Building on the experience of effective induction and mentoring programme.
- Embedding new teachers’ early development in a culture of continuing professional learning.

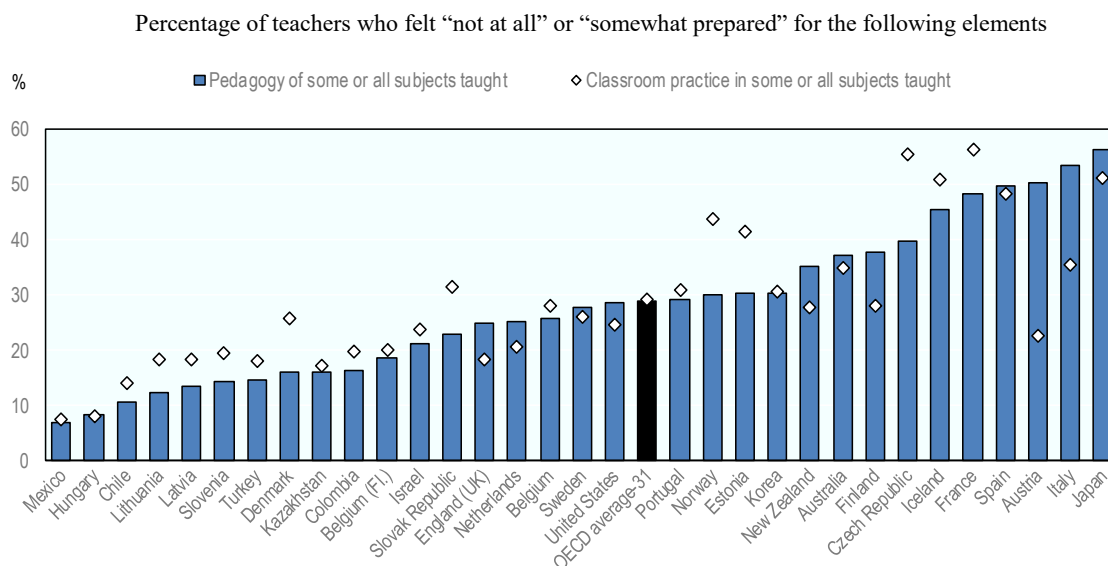
Source: OECD (2019), *A Flying Start: Improving Initial Teacher Preparation Systems*, OECD Publishing, Paris, <https://doi.org/10.1787/cf74e549-en>.

4.1.2. Linking initial teacher education to practice in schools

Though large majorities of lower secondary teachers report having received preparation in content, pedagogy and classroom practice for some or all of the subjects they teach, sizeable proportions of teachers in some countries report feeling underprepared for the realities of classroom teaching (OECD, 2019, p. 129^[4]). In particular, as Figure 4.1 documents, at least one in two teachers in Austria, the Czech Republic, France, Iceland, Italy, Spain and Japan report feeling underprepared for subject pedagogy, classroom practice or both. Such cross-country comparisons of self-reports should be conducted with extreme caution. In fact, as these data are self-reports they do not characterise the extent to which teachers are actually prepared to be successful in these areas, and likely over-represent levels of early career teacher preparedness.

This is not unique to the education sector as various other types of professionals begin with primarily theoretical training and continue to develop their skills over the course of their careers. However, the more skills initial teacher education can impart that permit both short-term success as well as long-term capacity for growth, the more students benefit. Additionally, the more teachers feel prepared for teaching, the more likely they are to remain in the profession (Ingersoll, Merrill and May, 2014^[5]), thus preserving systemic investments in the next generation of teachers and reducing recruitment costs and potential detrimental effects on schools associated with turnover.

Figure 4.1. Teachers' sense of preparedness for different elements of teaching (ISCED 2), 2018



Notes: Countries and economies are ranked in ascending order in sense of preparedness in pedagogy. The number of countries or economies included in the OECD average is indicated next to that average. On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported in this figure, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

Source: OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, OECD Publishing, Paris, <https://doi.org/10.1787/1d0bc92a-en>, Table I.4.20.

StatLink  <https://doi.org/10.1787/888934026582>

Teachers often enter the profession having experienced minimal classroom-based learning opportunities

Broad international agreement exists on the importance of opportunities to practice the skills required of teaching during initial education (OECD, 2019^[3]; Grossman, Hammerness and McDonald, 2009^[6]), but wide variation exists in country practice.

While in almost all OECD review countries (with the exception of Iceland and Mexico [secondary education]) the education of prospective teachers entails practical experience in school, expectations for pre-service school-based hours of practice vary widely across education systems. As Table 4.1 shows, some countries stipulate the specific number or a range of programme credits or time (e.g. in terms of hours, weeks or number of semesters) to be spent at school. Others recommend a minimum or maximum amount of practical experience, while yet others do not make any specifications about the extent of practical experience leaving the decision to individual teacher education institutions. Among those systems that specify practical experience in the form of ECTS credits, requirements range from less than 20 credits and less for some programmes for prospective secondary teachers in Denmark, Slovenia and Spain, to 60 and more credits for student teachers in Estonia and Portugal (basic school only).

This is similar to the picture provided by a report from Eurydice for education systems across Europe. In those 16 out of 28 systems that establish minimum European Credit Acquisition and Transfer System (ECTS) credit hours for student teaching in schools, the number of credits ranges from five to 60; which amounts to between 125 and 1 800 hours of work (European Commission/EACEA/Eurydice, 2015^[7]).²

Even these differences elide some within-system variation that is also related to the design of programmes to prepare prospective teachers. Prospective teachers may take their educational and professional studies alongside their academic subjects (concurrent model). Or they may take a programme of professional training in pedagogy and teaching after having completed a first degree in a discipline related to the subject taught at school (consecutive model). Countries may offer one of these types of teacher education or both, be it for all prospective teachers or for prospective teachers of specific levels of education.

In the Flemish Community of Belgium and Lithuania, for example, individuals can prepare for a career in teaching by completing an integrated programme (concurrent model of teacher education) or by gaining an additional qualification (consecutive model of teacher education). In Denmark, teacher education differs by level of education: prospective primary and lower secondary (*Folkeskole*) teachers follow an integrated model; prospective upper secondary teachers a consecutive one.

Given the shorter duration of professional training in pedagogy and teaching in a consecutive model, the practical component may make up a greater share of programme content. Nevertheless, the total amount of practical experience may still be greater in concurrent programmes. Put differently, concurrent models may offer more extensive, consecutive models more intensive practical training.

As the qualitative data for the OECD review also illustrate, in a number of countries, requirements for practical experience increase as student teachers progress through their programme (e.g. French Community of Belgium [primary and lower secondary teachers] and Uruguay [primary school teachers]) or as they advance from a first-cycle to a second-cycle degree (e.g. basic school teachers in Portugal).

Table 4.1. Practical experience during initial teacher education (ISCED 1-3), 2018

OECD review countries		
Country	Teaching qualification for levels of education	Requirement for in-classroom student teaching experience
Australia	ISCED 1-3	Yes, minimum of 80 days (bachelor's) or 60 days (master's)
Austria	ISCED 1-3	Yes, minimum of 40 ECTS
Belgium (Fl.) (2019) (1)	ISCED 1-3	Yes, minimum of 30 ECTS (associate or master's degree) or 45 ECTS (bachelor's)
Belgium (Fr.) (2)	ISCED 1-2	Yes, 16 weeks in total
	ISCED 3	Yes, minimum of 90 hours
Chile	ISCED 1-3	Yes, one semester
Colombia (3)	ISCED 1	Yes, but not specified (Higher Teaching Schools [<i>Escuela Normal Superior</i> , ENS])
	ISCED 1-3	Yes, minimum 40 credits (Faculties of Education)
Czech Republic	ISCED 1	Yes, minimum of 30 ECTS
	ISCED 2-3	Yes, minimum of 24 ECTS
Denmark	ISCED 1-2	Yes, 30 ECTS (University College)
	ISCED 3 (general)	Yes, 20 ECTS (<i>Paedagogikum</i>)
Estonia	ISCED 1-3	Yes, minimum of 60 ECTS
Iceland	ISCED 1-3	No
Kazakhstan	ISCED 1	Yes, but varies (vocational upper secondary or post-secondary programmes)
	ISCED 1-3	Yes, maximum of 34 ECTS (bachelor's)
Lithuania	ISCED 1-3	Yes, 30 ECTS
Mexico	ISCED 1	Yes, but varies
	ISCED 2-3	No
Portugal	ISCED 1-2	Yes, minimum of 47 or 63 ECTS (depending on master's programme)
	ISCED 3	Yes, minimum of 42 ECTS
Slovak Republic (4)	ISCED 1-3	Yes, but varies
Slovenia	ISCED 1	Yes, minimum of 30 ECTS
	ISCED 2-3	Yes, minimum of 15 or 30 ECTS (depending on programme)
Spain	ISCED 1	Yes, 50 ECTS
	ISCED 2-3	Yes, 16 ECTS
Sweden	ISCED 1-3	Yes, 30 ECTS
Turkey	ISCED 1-3	Yes, 22 ECTS
Uruguay (5)	ISCED 1	Yes, 40 hours in total during the 1 st year, 12 hours per week in 2 nd and 3 rd years and 16 hours per week in 4 th year of education
	ISCED 2-3	Yes, but varies

Notes: In-classroom student teaching requirement refers to periods in initial teacher education programmes in which student teachers spend time either observing or teaching under the supervision of a practicing classroom teacher. For the European Credit Acquisition and Transfer System (ECTS), the correspondence of the full-time workload of an academic year to 60 credits is often formalised by national legal provisions. In most cases, workload ranges from 1 500 to 1 800 hours for an academic year, which means that one credit corresponds to 25 to 30 hours of work.

1. Belgium (Fl.): Every credit represents 25-30 hours of a full study load; 60 credits are equivalent to one year.
2. Belgium (Fr.): For ISCED 1 and 2, teaching practice is organised during each of the three years of study. In the first year, this consists of participative observation in the presence of the internship supervisor; in the second and third years, the student takes charge of a class. At ISCED 3, teaching practice in real-life situations must include training periods as an observing participant, periods as a teacher (moving progressively into a teaching situation), and periods of school activities outside lessons (being involved in activities related to the running of the institution and the relationships between its players).
3. Colombia: An academic credit equals 48 total hours of student work.

4. Slovak Republic: The duration of in-classroom experience is at the discretion of individual higher education institutions, but typically comprises at least 6% of the length of study.

5. Uruguay: For prospective teachers at secondary level, practical experience typically takes place from the second to the fourth year during a four-year programme.

Sources: Based on Country Background Reports and Country Review Reports (<http://www.oecd.org/education/school-resources-review/schoolresourcesreview-reportsforparticipatingcountries.htm>), and Eurydice descriptions of national education systems (https://eacea.ec.europa.eu/national-policies/eurydice/national-description_en).

Where prospective teachers have limited opportunities for practical experience they lose opportunities to practice instructional skills in settings in which they will have to later apply them (Brown, Collins, & Duguid, 1989). A rich body of literature suggests this may leave them unprepared to transfer learning from the higher education classroom to the primary and secondary context (Feuer et al., 2013^[8]; O'Neill and Stephenson, 2012^[9]; Rockoff, 2004^[10]). Teachers frequently note their inability to transfer complex subject-matter knowledge to pedagogical content knowledge, that is the ability to teach the concept rather than just understand it oneself (Delaney et al., 2008^[11]; Hill, Rowan and Ball, 2005^[12]), as well as struggles with engaging student interest and managing student misbehaviours (Reupert and Woodcock, 2015^[13]; Emmer and Stough, 2001^[14]).

For the OECD Teaching and Learning International Survey (TALIS) 2018, a considerable share of teachers at lower secondary level reported feeling underprepared for managing classrooms and student behaviour, ranging from more than one in four teachers in Lithuania to more than three in four in Austria and France. Mexico and Turkey are exceptions to the trend, with less than 15% of teachers reporting to feel underprepared in this area (OECD, 2019, pp. 207, Table I.4.20^[4]).

Notably, the challenges of transferring academic skills in higher education to the realities of schools is not unique to teachers among school staff. While there is limited systematic and comparative knowledge about other professionals' roles and their preparation, some have argued that school social workers, for instance, would benefit from more practical applications in their training (Finigan-Carr and Shaia, 2018^[15]).

Some OECD review and other countries have sought to strengthen initial teacher preparation by increasing student teachers' share of practical experience. The education ministry of Colombia, for instance, substantially raised the requirements for practical experience for teacher education programmes at faculties of education to gain basic accreditation. The Colombian experience, however, also illustrates tensions between successfully integrating theoretical and practical application in teacher education. Efforts to establish a common set of expectations regarding the content and methods of pre-service preparation were met with resistance from higher education institutions. In addition to political challenges, stakeholders raised concerns about sufficient investments in time, resources and capacity to build tighter connections between institutions of higher education and schools (Radinger et al., 2018^[16]).

Besides the extent of practical experience, also the quality of school placements needs to be considered. Simply placing student teachers in classrooms with poor models for instruction, and weak guidance and supervision will not yield better prepared beginning teachers (Ronfeldt and Reininger, 2012^[17]). This is not only important as teachers and school leaders in schools play an important role in shaping new teachers' learning, but also in their socialisation into the profession as teacher colleagues (Paniagua and Sánchez-Martí, 2018^[18]). Grounded practice should take place in schools that provide a strong culture of professional learning and a sheltered environment for prospective teachers to practice and develop their teaching skills (OECD, 2019^[3]).

To promote quality in student teachers' practical experience at school, education authorities may set requirements regarding the qualifications of teachers hosting student teachers, such as the number of years of experience and positive evaluation results, and oversee quality (e.g. through an independent screening body). In Portugal, this is the responsibility of individual teacher education institutions which screen for the quality of the co-operating teacher who provides mentoring to student teachers (Liebowitz et al., 2018^[19]). Education authorities may also play a role in identifying and supporting schools to provide a suitable learning environment. This is the case for the preparation of primary teachers in Uruguay where the central education authority designates specific schools as practicum sites. Teacher mentors in these "practice schools" receive dedicated training for their role and are compensated for their specific function (Santiago et al., 2016^[20]).

Links between initial teacher education programmes and schools can be improved

Many systems, cognizant of concerns about the disconnect between academic education and the realities of primary and secondary schools, have invested in developing stronger links between teacher education institutions and schools. Norway, for example, redesigned its primary and lower secondary teacher education programmes in the fall of 2017. These five-year programmes are intent on building master's candidates ability to use research-based knowledge in teaching and increasing the academic rigor of the course work. However, the programmes recognise that to be successful, they will need to be relevant to the experience of working in schools (Norwegian Ministry of Education and Research, 2018^[21]). Box 4.2 presents another example, an innovative partnership between initial teacher education and networks of schools in the Netherlands.

Models of clinical practice in education, based on the medical residency system, bring a research-based understanding of teaching and learning into dialogue with the professional understandings of experienced teachers (OECD, 2019^[3]). Box 4.3 provides examples of teacher residencies from the United States. These residencies integrate aspects of traditional university classroom preparation with on-the-job learning of alternative pathways into an immersive learning experience.

Box 4.2. Collaboration between initial teacher education and school education in the Netherlands

In the Netherlands, several initial teacher education pathways require substantial time spent in classrooms. School-based primary education teacher preparation programmes require 120 of 240 European Credit Acquisition and Transfer System (ECTS) credit hours to take place in a primary classroom. Similarly, secondary teaching one-year master's candidates must spend 50% of their time in a school-based practicum. To ensure that these extensive school-based experiences are successful, the Netherlands has initiated multiple school-initial teacher education partnerships.

These partnerships are supported at the system level through a requirement for programmes to demonstrate successful partnerships to maintain accreditation. An independent accreditation body approves each school-university partnership before they are funded by the Dutch Ministry of Education, Culture and Science. The accreditation body determines if there is a clear vision; a shared focus on improvement, leadership, co-operation and self-management; and a commitment to improving learning for students.

To address concerns from schools and school boards about the “classroom readiness” of newly qualified primary teachers, the ministry launched a range of initiatives to improve the match between preparation programmes and school needs. These initiatives have facilitated and funded the much closer integration of universities with school boards, at the strategic level, and with individual schools at both the strategic and operational level.

Some examples of partnership activities that ensure schools and prospective teachers benefit include:

- The teacher education institution employs a teacher educator to oversee the partnership and provide strategic leadership.
- Schools and teacher education institutions exchange staff and work in each other’s institutions.
- School and teacher education institution staff work closely together to develop and refine the initial teacher education curriculum and delivery.
- The school board and the teacher education institution jointly design how to select candidates students and both have a role in the selection.
- The teacher education institution provides training for teachers interested in being mentors.
- The school grades the student teacher on their practice; the student must achieve a pass mark to receive their teaching certificate.

Source: OECD (2019), *A Flying Start: Improving Initial Teacher Preparation Systems*, OECD Publishing, Paris, <https://doi.org/10.1787/cf74e549-en>.

In some OECD review countries, different types of institutions with their particular strengths in theory or practice prepare teachers for different levels of education (e.g. Austria, Colombia and Denmark). As the experience of the OECD review highlights, collaboration between the different institutions may strengthen teacher preparation overall.

For example, a teacher education reform in Austria (approved in 2013 and implemented since 2015/16) has brought the country’s two types of teacher education institutions closer together, arguably strengthening the full initial teacher preparation system in the process. While university colleges of teacher education (*Pädagogische Hochschulen*, PHs) (which train teachers for provincial schools and are under leadership of the education ministry) have closer ties to schools and practice, universities (which train teachers for federal schools and enjoy greater autonomy) have particular strengths in theory and research.³ Collaboration has brought together the strengths of both types of institutions and the potential to improve both training in subject-related theory and pedagogy for all new teachers. An independent quality assurance council has supported the development of new teacher education programmes and has provided continuous advice for the further development of initial teacher education in the country (Nusche et al., 2016_[22]).

In Colombia, there are similarly two main types of institutions with different strengths and weaknesses. While higher teaching schools (*Escuelas Normales Superiores*, ENS) prepare teachers for pre-primary and primary education (under leadership of the regional and local authorities that have been certified to provide education), university faculties of education prepare teachers for all levels of school education.⁴ Higher teaching schools, which provide a teacher education programme in addition to all levels of school education, are required to form partnerships with higher education institutions. This can potentially also create synergies between practice, theory and research (Radinger et al., 2018_[16]).

Box 4.3. Urban teacher residencies in the United States

Urban teacher residencies integrate aspects of traditional and alternative teacher preparation. Typically run by a school district independently or in partnership with a non-profit organisation, residency programmes select teaching candidates to work alongside a mentor for a full year before becoming a teacher of record. Residents also complete a set of coursework leading to both state certification and a master's degree from a partner university. In exchange for tuition remittance and a residency-year stipend, they commit to teaching in the district for a specified period, generally three to five years.

The teacher residency model has spread rapidly in the United States since the first programmes were launched in Chicago, Boston, and Denver between 2002 and 2004, attracting substantial public and philanthropic investment. A 2016 survey of the residency landscape found at least 50 programmes across the country (Guha, Hyler and Darling-Hammond, 2016_[23]). As of August 2019, the National Center for Teacher Residencies listed 29 programmes serving some of the largest school districts (e.g. Los Angeles, Chicago and New York) (National Center for Teacher Residencies, 2018_[24]).

The federal government has provided targeted funding to support teacher residency models, and 15 states proposed in 2018 to leverage residencies to improve teacher effectiveness (National Center for Teacher Residencies, 2018_[25]). The practice-based training model has also influenced broader conversations about the reform of university-based teacher preparation, with an intra-state educator preparation accreditation governing body articulating clinical partnerships as one of five core principles of effective initial teacher education (Council for the Accreditation of Educator Preparation, 2013_[26]).

Most studies reveal improved retention outcomes for teachers entering the profession through these residencies, with potential but not definitive learning gains for students of teachers prepared through the residency pathway. Five empirical studies found teacher retention rates between 10% and 50% better than non-resident teachers in the same district (Guha, Hyler and Darling-Hammond, 2016_[23]). The only existent causal evaluation of an urban teacher residency model on student learning growth revealed mixed outcomes.

Papay et al. (2012_[27]) found that the Boston Teacher Residency produced graduates who were more likely to remain teaching in the school district. However, they improved their students' literacy skills at no higher rates than their early career peers who had not participated in an urban teacher residency. They initially underperformed their early career peers in improving their students' maths performance, but by their fourth year of teaching outperformed them. The authors conclude that the programme's overall effect was at best likely to improve overall student achievement only modestly.

Teacher education programmes do often not yet sufficiently prepare teachers for the diverse backgrounds of their students

The OECD has documented growing diversity in students' learning profiles and backgrounds (OECD, 2018^[28]; OECD, 2018^[29]). In addition to growing student numbers formally classified as having special educational needs (SEN), many countries more frequently welcome students with immigrant backgrounds. Some teaching and school leadership skills cross all contexts; others may be most relevant in particular contexts. Some school systems explicitly acknowledge these differences and design training sequences for student teachers and practicing teachers that respond to these needs.

In 2012, Denmark reformed initial teacher education programme requirements so that all teachers would receive preparation in special needs and second language instruction (Nusche et al., 2016^[30]). Teacher education reform in Austria has likewise made inclusive pedagogy an integral part of the training for all new teachers (Nusche et al., 2016^[22]).

Students with an immigrant or ethnic minority background

The OECD has documented several challenges in the match between teachers' skills and the needs of their students, particularly those of an immigrant background. Students who are immigrants to their country of schooling or who had at least one parent who was themselves an immigrant represent approximately one in four 15-year-olds in OECD countries. These 15-year-olds with an immigrant background are more likely to underperform academically, have a weak sense of belonging in school, have a low satisfaction with life and have a high schoolwork-related anxiety (OECD, 2018^[29]).

General strategies articulated by the OECD include adopting a holistic approach to immigrant students and identifying relationship development as key levers to create welcoming school environments for immigrant students. This is particularly salient as school climate, favouritism by teachers and lack of feedback have large impacts on the outcomes of students with immigrant backgrounds (OECD, 2018^[29]). School systems have generally taken an approach of either recruiting teachers who match the cultural backgrounds of under-served populations of students, training all teachers in cross-cultural proficiency, or a combination of these two strategies.

Austria and Germany offer two examples of the first type. At the University of Vienna, an innovative refugee teacher education programme began in September 2017 (*Bildungswissenschaftliche Grundlagen für Lehrkräfte mit Fluchthintergrund*) which permits refugees a pathway to teaching through alternative certification. Teachers with a refugee background are provided a fully funded education in a combination of education theory and a supervised practicum placement. In Germany, Teachers with Immigration Background (*Lehrkräfte mit Zuwanderungsgeschichte*) recruits and supports immigrant teachers in the state of North-Rhine Westphalia through career information events, local networks of practicing and aspiring teachers, and certification courses for migrant teachers to become "Inter-cultural Co-ordinators" who then promote diversity and inclusion in their respective schools (Cerna et al., 2019^[31]).

Other programmes offer explicit strategies to teachers without immigrant or refugee backgrounds to help them build toolkits to support such students. Some institutions of higher education have leveraged technology to provide online programmes in intercultural skills, e.g. the RMIT School of Education in Melbourne's eTutor programme (Cerna et al., 2019^[31]). Others either include mandatory coursework in diversity within a larger education

degree programme, or offer a degree programme centred entirely on educational diversity (European Commission, 2017^[32]).

The experience of Sweden's programmatic efforts to prepare teachers for students with an immigrant background points to some potential challenges in implementation. Despite two programmes to train recent migrants with professional experience to transition into the Swedish education system,⁵ and elective courses for all prospective teachers on multicultural education, this has proven insufficient. Either due to weak participation from immigrant communities, the elective nature of courses, or the overly theoretical emphasis, these programmes have failed to prepare teachers to fully support students with recent immigrant backgrounds from the Middle East in Sweden (Cerna et al., 2019^[31]).

Depending on the country context, future teachers may also require the knowledge and skills to work with other ethnic minority students. OECD review and other countries have taken similar approaches as for students with an immigrant background and recruit teachers from their communities and/or train all teachers in related competencies. Teachers may benefit from professional learning that helps them to better understand their students, their students' families and communities, the history of minorities in their area and the cultural and historical significance of events, places and landmarks in the vicinity of the school community (OECD, 2017^[33]).

Colombia, a country of great cultural, ethnic and geographical diversity, has specific provisions for the education of ethnic minorities with the purpose of respecting and maintaining ethnic language, culture and values. Legislation also sets some objectives for the preparation of educators of ethnic groups (*etnoeducadores*), which should be hired in negotiation with the ethnic communities, giving preference to members of the local community. Teacher education should provide specific training in ethnic education and opportunities for educators of ethnic groups to develop their skills and engage in research. However, provisions have not been effectively put into practice, existing programmes are few, and the quality of programmes has been a concern (Radinger et al., 2018^[16]).

The Chilean experience with its indigenous education programme (*Programa de Educación Intercultural Bilingüe*, PEIB) highlights some other challenges related to the recruitment and preparation of teachers for indigenous communities. Low educational attainment of traditional teachers (average schooling of 11 years) makes entry to initial teacher education programmes difficult, while dedicated training for traditional teachers in instructional practices and pedagogical methods is lacking (Santiago et al., 2017^[34]).

In New Zealand, multicultural goals feature prominently in systemic reforms embodied in Future Focused Initial Teacher Education, and in the standards for educator licensure (e.g. Cultural Competencies for Teachers of Māori and Pacific Learners) (Education Council New Zealand, 2011^[35]; New Zealand Ministry of Education, 2018^[36]). In Australia, the federal government funded the More Aboriginal and Torres Strait Islander Teachers Initiative (MATSITI) between 2011 and 2016 to attract, retain and develop Aboriginal and Torres Strait Islander peoples in teaching positions (Buckskin, 2017^[37]).

Students from rural communities

Beyond cultural and ethnic backgrounds, many systems include substantially different forms of students' needs across geographic regions. Recent work drawing on the OECD's international teacher surveys and student assessments finds that while students from rural backgrounds tend to perform academically roughly equivalently to their urban peers once their socio-economic status is taken into account. However, rural students tend to have

lower educational expectations (Echazarra and Radinger, 2019^[38]; OECD, 2018^[28]). This accords with national-level studies showing that rural students often attend less competitive universities, conditional on their school performance (known as “under-matching”), or fail to attend higher education at all (Hoxby and Avery, 2013^[39]). This is a particular concern given increasing returns to higher education (Handel, 2012^[40]).

Rural school settings sometimes create particular pedagogical challenges, particularly in the context of multi-grade classrooms (Echazarra and Radinger, 2019^[38]; OECD, 2018^[28]). Teachers, and in particular those new to rural and remote contexts, must learn strategies to adapt curriculum specific to a particular grade in a setting with different age students in the same class. To support learning for all students in a multi-grade classroom, teachers may require innovative ways to engage students, manage classroom interaction and discipline, and provide constructive feedback. This is particularly critical as the effects of learning in a multi-grade classroom may depend in part on the quality of practices used by the instructor (Echazarra and Radinger, 2019^[38]; OECD, 2018^[28]).

Given the small number of staff in rural schools, teachers may furthermore have to teach a variety of subjects, including some outside their area of expertise for which they have not received training and for which they may require additional time to prepare. Data from TALIS 2013, in fact, reveal that in several countries, and on average across OECD countries, a larger share of rural teachers than urban teachers reported that they had not received formal education or training on the content, pedagogy or classroom practice for all the subjects they teach (Echazarra and Radinger, 2019^[38]; OECD, 2018^[28]).

Since multi-grade teaching strategies may not feature in initial teacher education, countries with small schools and multi-grade classes should reflect on ways to provide effective professional learning opportunities and supportive working conditions for rural teachers. Facilitating peer learning, collaboration and feedback will be important to connect rural teachers to their professional community. Effective partnerships and feedback loops between rural schools, teacher education institutions and education authorities may help to inform the design of teacher education programmes and increase their relevance for rural contexts (Echazarra and Radinger, 2019^[38]; OECD, 2018^[28]).

Students with special educational needs (SEN)

In addition to efforts to better serve students with immigrant and geographically diverse backgrounds, OECD countries allocate increasing shares of their budgets to meet the needs of students with special educational needs (SEN) and to integrate them in mainstream education (OECD, 2018^[28]). Due to substantial differences in how countries classify students with special needs, it is difficult to collect internationally comparable data. Nevertheless, in 2018, more than 30% of teachers worked in schools with at least 10% of students with special needs, on average across 30 OECD countries with available data, as reported by principals for TALIS 2018 (OECD, 2019, pp. 206, Table I.3.25^[4]).⁶

Despite increasing attention to the moral imperative of adequately serving students with special needs, as also articulated by the United Nations 2030 Sustainable Development Goals (United Nations, 2015^[41]), many educators report feeling unprepared to support their learning needs. In the OECD review of Denmark – a country which has committed itself to greater inclusion – teachers felt unprepared to draw up learning-focussed individual learning plans for their students and to use and adapt national learning goals for their students with special needs, for example. The review identified a need to further develop teachers’ skills to use multiple methods and pathways to achieve learning goals to reach all students, including those with special needs (Nusche et al., 2016^[30]).

The single highest-need topic of professional development for teachers as reported for the TALIS 2014 and 2018 was teaching students with special needs (OECD, 2014, p. 109^[42]; OECD, 2019, p. 164^[41]). A shortage of teachers with competencies in teaching students with special needs was also one of the three most common resource issues for schools as reported by school principals for TALIS 2018. Almost a third of teachers across OECD countries work in a school whose principal reported that such a shortage hinders the school's capacity to provide quality instruction (OECD, 2019, pp. 108, Table I.3.63^[41]). Thus, the combination of growing populations of special needs students, and their growing integration into mainstream classrooms likely contribute to teachers' sense of lack of preparedness for teaching (OECD, 2018^[28]).

Alternative pathways offer an accelerated route into teaching but the quality of preparation in these routes is uncertain

In response to concerns about the quality of candidates selected into initial teacher education programmes, as well as related concerns about the nature of the curriculum in these programmes, several alternative pathways into teaching and school leadership roles have been developed. In some cases (e.g. England [United Kingdom], the Netherlands, Latvia and Lithuania), these alternative pathways are characterised as operating largely independently from higher education institutions, as an analysis of information available in a Eurydice report suggests. In other cases (e.g. Germany, Denmark, Sweden and the Flemish Community of Belgium), they seem to be connected to higher education institutions, but to operate distinctly from typical preparation programmes (European Commission/EACEA/Eurydice, 2018^[43]).

Alternative pathways (which may also be developed as a response to teacher and school leader shortages as analysed in Chapter 3) generally involve short-term trainings lasting anywhere from a few weeks to a few months, resulting in a form of certification permitting the holder to teach or manage a school. Some of these alternative pathways appeal to career-switchers at mid-career points, while others are intended to appeal to high-skill recent tertiary graduates who might not otherwise have considered teaching (e.g. Teach for All, a network of teacher recruitment and development programmes in 45 countries that attracts teachers from non-traditional backgrounds).

In some countries, alternative pathways represent a notable share of new entrants into teaching. In Estonia and Lithuania, more than 15% of teachers who had completed their formal teacher education in the last five years prior to TALIS 2018 had done so through a fast-track or specialised programme, as reported by teachers (18.5% and 15.3% respectively). In three further countries, the proportion of new teachers completing such a programme amounted to around 13% (Flemish Community of Belgium [13.3%], Colombia [13.6%], England (United Kingdom) [14.1%]) (OECD, 2019, pp. 207, Table I.4.12^[41]).

A recent Eurydice report documents that approximately one third of European countries have some alternative pathway to a teaching qualification. These include short mid-career professional-oriented programmes in the Flemish Community of Belgium, Denmark, Germany, the Slovak Republic, Sweden, Switzerland and Turkey and employment-based, residency training in Latvia, Lithuania, the Netherlands and England and Wales (United Kingdom) (European Commission/EACEA/Eurydice, 2018, pp. 37, 38^[43]).

In many systems, there is limited systematic knowledge about teachers entering through alternative pathways, the quality of their preparation, and their trajectory in the profession. The effects of alternative pathways on student learning outcomes is often uncertain and little is known about the instructional techniques employed by alternatively prepared

teachers. Also limited internationally comparable and rigorous evidence exists on the effects of these accelerated pathways.

Concerning Teach for All, some studies find positive gains for students taught by teachers recruited under this model (e.g. Chacon and Pena (2017_[44]) for Mexico). But these results are correlational in nature, and may be driven by teachers' and students' selection into particular schools that contribute to increased academic and socio-emotional learning gains in other ways. Studies in the United Kingdom (Allen and Allnutt, 2017_[45]) and the United States (Clark et al., 2017_[46]) tend to find either no difference or very marginal benefits to alternative pathway teachers, with unknown general equilibrium effects due to their tendency to leave teaching at more rapid rates.

One frequently noted concern about these alternative pathways is their potential for “de-professionalising” teaching (Vegas, 2011_[47]; Zeichner, 2014_[48]). Namely, if teaching candidates move quickly through a short training cycle before being placed in a classroom, it will lead to a devaluation of the complex skills of teachers. There is some evidence in the United States that alternatively certified teachers experience high rates of turnover, but these rates are no higher than similarly placed first-year teachers (Donaldson, 2011_[49]). At the same time, alternative pathways can offer intelligent trajectories for individuals to grow into teaching and school leadership, or even in other areas, such as policy making and social enterprise, and to become innovates in the teaching profession (Schleicher, 2018_[50]).

4.1.3. Induction and mentoring

The transition from initial education to primary and secondary teaching is a critical stage in preparing teachers and helping them to be effective in the classroom (OECD, 2019_[3]; Paniagua and Sánchez-Martí, 2018_[18]; Jensen et al., 2012_[51]). Assuming the role of full-time teacher is daunting and can present unique challenges. Many teachers report significant struggles early in their careers related to classroom management and understanding school social systems (Schuck et al., 2018_[52]; Cherubini, 2009_[53]). Econometric evidence, furthermore, suggests lower levels of productivity in terms of student learning outcomes early in teachers' and school leaders' careers (Papay and Kraft, 2015_[54]; Clark, Martorell and Rockoff, 2009_[55]). At the same time, early career teachers bring with them enthusiasm and recent training that can be potentially valuable for schools to innovate and reflect on their own practices and for team learning among staff (OECD, 2019_[3]; Paniagua and Sánchez-Martí, 2018_[18]).

A number of countries have made efforts to promote supports to new teachers so they are successful in launching their career and becoming a part of the profession. Such “induction” efforts often seek to bridge the gap between theory and practice, address workload challenges, provide strategies in classroom management and understanding school culture (OECD, 2019_[3]; Jensen, Klette and Hammerness, 2017_[56]).

Though systems provide these supports in different ways, induction is generally understood as a variety of mechanisms, which may include both mentoring and coaching. Box 4.4 provides definitions.

Box 4.4. Models for staff support: induction, mentoring and coaching

There are three common types of support provided to school staff: induction, mentoring and coaching. These types of support are related, but distinct.

- **Induction:** a variety of mechanisms in which beginning teachers are oriented to the profession or the context of a new school; can include new teacher orientations, sequence of first-year courses, mentoring, coaching and more (Wong and Wong, 2005_[57]).
- **Mentoring:** relationship between an experienced mentor and their less experienced mentee to pass on knowledge and experience, provide guidance and facilitate connections to others; more often focusses on providing general advice rather than responding directly to observed classroom practices (Wildman et al., 1992_[58]).
- **Coaching:** goal-oriented process to improve instructional or leadership skills; a qualified teacher or leader with specific capacities and preparation guides the learning of another adult in instructional or leadership skills, e.g. through peer-to-peer discussions that provide the person being coached with feedback on their strengths and weaknesses in areas chosen by them.

Intensive teacher coaching has been demonstrated across multiple contexts to improve teaching practice and student achievement outcomes (Kraft and Blazar, 2016_[59]; Allen et al., 2011_[60]; Campbell and Malkus, 2011_[61]; Powell et al., 2010_[62]). In fact, a recent meta-analysis of 60 causal research studies found improvements in teaching practices on the order of half of a standard deviation and on student achievement of around a fifth of a standard deviation (Kraft, Blazar and Hogan, 2018_[63]). Reviews of traditional induction and mentoring programmes have found more mixed effects (Ingersoll and Strong, 2011_[64]). Context and duration seem to play an important role for the effectiveness of induction processes, but much remains to be understood about the types of support that work best, and why (Ingersoll and Strong, 2011_[64]), and also if and how induction can help retain new teachers in the classroom (Ronfeldt and McQueen, 2017_[65]; Glazerman et al., 2010_[66]).

Countries also need to consider inherent resource trade-offs developing such strategies. Reducing beginning teachers' workloads, providing mentoring stipends and course releases or trainers for mentoring programmes can be costly in terms of time and money. For example, in England (United Kingdom), starting in autumn 2021, the Early Career Framework will guarantee a 10% timetable reduction in beginning teachers' first year of teaching, and a 5% reduction in their second year. Regular trainings for both early career teachers and mentors will be fully funded, and a specific curriculum will be created. The anticipated cost is approximately GBP 130 million (British pounds) per year (Department for Education, 2019_[67]). While the cost of mentorship can be high, so too are however high levels of teacher turnover. England's Department for Education estimates that it spends around GBP 250 million annually on teacher recruitment costs (Department for Education, 2019_[68]). Thus, school systems which consider investing in reforms to their induction programmes must carefully estimate the relative costs and expected benefits of each policy option to determine their value.

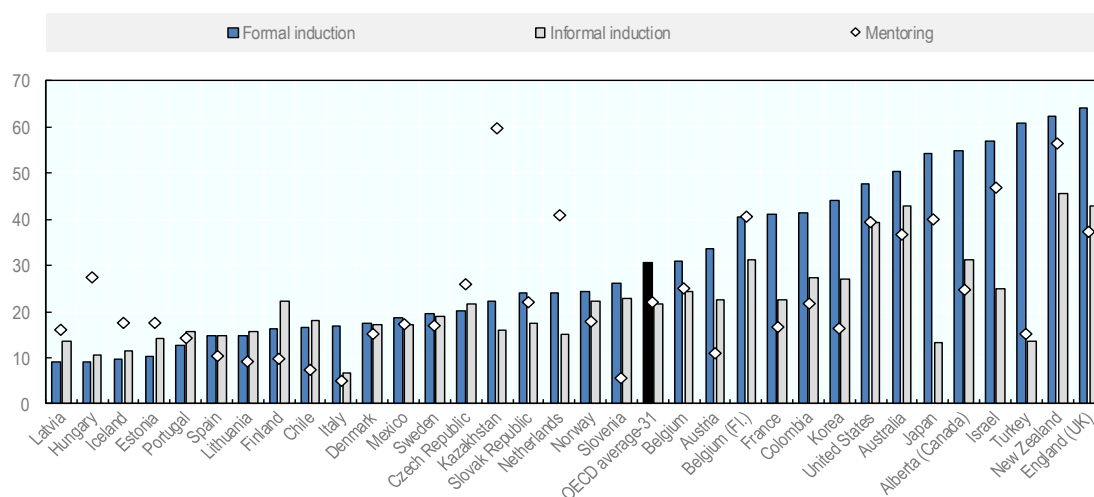
Access to and participation in induction vary widely

Despite widespread awareness of the challenges of beginning teachers, there seems to be scope to further support access to and participation in systematic induction processes. On average across OECD countries participating in TALIS 2018, 66% of beginning teachers (those with up to five years of teaching experience) report not having participated in any form of induction during their first employment. In Hungary, Italy and Latvia, only 15% or less of beginning teachers reportedly took part in an induction during their first employment (OECD, 2019, pp. 208, Table I.4.38^[4]). Figure 4.2 provides more detailed survey results for beginning teachers' participation in formal and informal induction.

Mentoring, which can be part of induction, also appears to be underexploited as a support beginning teachers (again see Figure 4.2). According to the TALIS 2018, only 22% of teachers with up to five years of teaching experience reported to have an assigned mentor, on average across the OECD (OECD, 2019, pp. 145, Figure I.4.14, Table I.4.64^[4]).

Figure 4.2. Induction and mentoring for beginning teachers (ISCED 2), 2018

Results based on responses of teachers with five years of experience or less



Notes: Countries and economies are ranked in ascending order of participation in formal induction. “Induction activities” are designed to support new teachers’ introduction to the teaching profession and to support experienced teachers who are new to a school, either organised in formal, structured programmes or informally arranged as separate activities; “Mentoring” is defined 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. It does not include mentoring of student teachers doing teaching practice at this school. For induction, the sample is restricted to teachers who gave a valid answer to both questions of whether they participated in a formal induction programme and in informal induction activities during first employment. The number of countries or economies included in the OECD average is indicated next to that average. On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported in this figure, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia’s instrument of accession to the OECD Convention was pending.

Source: OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, OECD Publishing, Paris, <https://doi.org/10.1787/1d0bc92a-en>, Tables I.4.38 and I.4.64.

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Looking at the experience of OECD review countries, formal induction is an integral part of new teachers' transition into the profession in less than half of participating countries (see Table 4.2).

Table 4.2. Induction requirements (ISCED 1-3), 2018

OECD review countries, public schools

Induction required																				
Country	Australia (1)	Austria (2019/20)	Belgium (Fl.)	Belgium (Fr.) (2)	Chile (3)	Colombia	Czech Republic	Denmark	Estonia	Iceland	Kazakhstan	Lithuania	Mexico	Portugal	Slovak Republic (4)	Slovenia	Spain (5)	Sweden	Turkey	Uruguay

Note: Induction refers to supervision/mentoring at school following completion of initial teacher education (e.g. required for employment).

1. Austria: Prior to the introduction of a new teacher service code, an induction period was only mandatory for beginning teachers at academic secondary schools. Since 2019/20, all beginning teachers under the new service code are required to complete a one-year induction phase.

2. Belgium (Fr.): Schools must define a strategy for induction as part of their steering plan.

3. Chile: Up to ten months during first or second year of professional experience.

4. Slovak Republic: One year.

5. Spain: Between three months and a year depending on state education authority (Autonomous Community).

6. Turkey: One year.

Sources: Based on Country Background Reports and Country Review Reports (<http://www.oecd.org/education/school-resources-review/schoolresourcesreview-reportsforparticipatingcountries.htm>), and Eurydice descriptions of national education systems (https://eacea.ec.europa.eu/national-policies/eurydice/national-description_en).

In Spain and Turkey, traineeships are required following completion of initial teacher education to gain employment as a fully-qualified teacher.

- In Spain, beginning teachers selected through the central recruitment process start their career with a dedicated traineeship period, the successful completion of which is required for appointment as a civil servant. The specifics of the traineeships are regulated by the education authorities of the individual Autonomous Communities. Typically, however, traineeships last between three months and a full school year. During this time, trainees share responsibility for planning, teaching and assessment with their tutor. Trainees may observe other teachers' classrooms and participate in further training (e.g. distance learning or courses at Teacher and Resource Centres) (Eurydice, 2019_[69]).
- Similarly, beginning teachers in Turkey undertake a traineeship at the beginning of their career which is a precondition for appointment to a permanent position. As part of their traineeship, teacher candidates are mentored by experienced teachers, which can include classrooms observations and the completion of tasks for preparation and evaluation in and outside of the classroom. Teacher candidates are also expected to engage in self-study and they attend seminars and conferences to further develop their knowledge and skills (Eurydice, 2019_[69]).

Other OECD review countries mandate induction periods for beginning teachers upon their first appointment (see Box 4.5), possibly linked to the first stage of a multi-stage career structure. Austria, the French Community of Belgium and Chile have recently put in place more systematic induction requirements (Santiago et al., 2017^[34]; Ministère de la Fédération Wallonie-Bruxelles, 2016^[70]; Nusche et al., 2016^[22]). In the case of Austria and Chile, these have been part of wider reforms of the teacher career.

Box 4.5. Induction processes in OECD review countries

Austria

A one-year induction phase (*Unterrichtspraktikum*) has traditionally been required only for teachers of academic secondary schools. Following the introduction of a new teacher service code for all teachers (*Dienstrechts-Novelle 2013 – Pädagogischer Dienst*), all new teachers benefit from a one-year professional entry phase. These requirements came into effect in 2019/20. During the entry phase, beginning teachers are supported by experienced mentors, that is active teachers with additional training in the area of mentoring. In addition to supervision at the school, new teachers attend induction courses at a university college of teacher education. At the end of the induction period, new teachers receive an evaluation of their performance by the school principal.

Source: Nusche, D., T. Radinger, M. R. Busemeyer, H. Theisens (2016), *OECD Reviews of School Resources: Austria 2016*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264256729-en>.

Chile

In Chile, the organisation of induction processes for beginning teachers was typically at the discretion of school providers and schools. A reform of the teaching career in the form of a System for Teacher Professional Development (*Sistema de Desarrollo Profesional Docente*, Law 20.903) introduced in 2016 established a mandatory induction process for all beginning teachers. The induction phase takes place either in the first or second year of teaching, has a duration of up to ten months, and includes mentoring at the school by an experienced teacher with a proven record of quality teaching. The induction process – both the additional hours for the beginning teacher and the hours of the mentor – is funded by the Ministry of Education. The induction process has a formative function and is not associated with a probationary period.

Source: Santiago, P., A. Fiszbein, S. García, T. Radinger (2017), *OECD Reviews of School Resources: Chile 2017*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264285637-en>.

Slovak Republic

At the beginning of their career, teachers are required to undertake and complete an induction programme within the first two years. Induction is organised by the school in collaboration with the respective Methodology and Pedagogy Centre (*Metodicko-pedagogické centrum*), which are institutions for teacher education and training, or the National Institute for Education (*Štátny pedagogický ústav*, ŠPÚ), an education advisory body which also provides assistance and counselling for schools. The induction process consists of “adaptation courses” (provided free of charge) and supervision by a mentor teacher at school who receive additional compensation for their role. The induction phase is completed with a final examination. Failure to complete the “adaptation courses” can lead to dismissal.

Source: Santiago, P., G. Halász, R. Levačić, C. Shewbridge (2016), *OECD Reviews of School Resources: Slovak Republic 2015*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264247567-en>.

In other OECD review countries, there are no formal induction requirements and processes for beginning teachers into the teaching profession. Nevertheless, education authorities may encourage induction processes with funding and other support. In Estonia, for example, beginning teachers may voluntarily participate in a 12-month induction programme which is funded by the Ministry of Education and Research and implemented by two of the countries' three public comprehensive universities. The induction programme provides for a mentor to supervise the work of the beginning teacher. The mentor, who is a teacher at the receiving school, is appointed by the school principal and has at least three years of experience in pedagogical work and passed a specific training in supervision. The mentor is also required to provide feedback to the initial teacher education institution from which the beginning teacher received their qualification. During the induction year, the beginning teacher should prepare an individual development chart which contains a self-evaluation of their experience. Other offers include workshops for beginner teachers that address the experiences and frequent challenges of the first year(s) of work and seek solutions for them, either jointly or individually (Santiago et al., 2016^[71]).

In Slovenia, participation in an induction period represents one of two possible pathways into the profession. Teachers can either apply directly for open positions advertised by schools or – as is recommended – through an open recruitment for trainee positions advertised by the ministry of education. For the traineeships, the ministry manages the selection and placement of candidates while taking schools' needs and interests into account. Depending on the qualification of the graduate teacher, the traineeship lasts between six and ten months. During this time, trainees are accompanied by a dedicated mentor appointed by the principal. Trainees are expected to deepen their knowledge of subject-specific didactics, learn to design lesson plans, and prepare lessons and execute them while observing the mentor's classes and those of other teachers in the schools. They are also supposed to co-operate with school leadership and to work with parents. At the end of their traineeship, trainees sit an oral professional examination (Slovenian Ministry of Education, Science and Sport, 2017^[72]).

In yet other OECD Review countries, the availability of induction depends on local contexts. Denmark represents one such system with many municipalities and schools paying special attention to new or beginning teachers (e.g. from some informal mentoring by school staff and school leaders to having new teachers teach less and work with an experienced staff member for periods of time) (Nusche et al., 2016^[30]). While efforts to offer workshops for beginning teachers, to reduce their teaching load and provide mentoring have promise, the non-systematic nature of these approaches nevertheless raises concerns that not all new teachers benefit from high-quality induction.

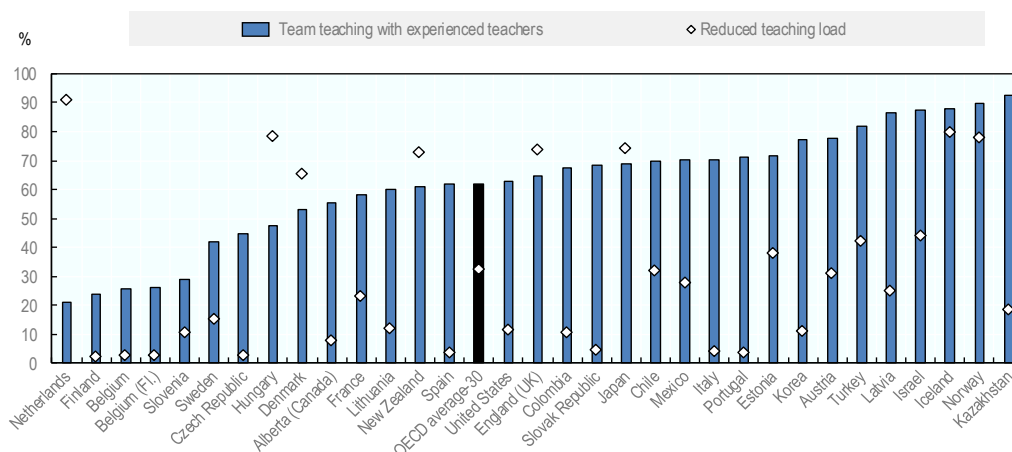
A recent OECD report on initial teacher preparation highlights shared challenges in induction, such as a lack of alignment between initial teacher education programmes and induction curricula, and obstacles to extending induction and connecting it with continuing professional development (OECD, 2019^[3]). The report, therefore, suggests that successful induction should be delivered as a coherent programme that provides personal and emotional, social and professional supports, and draws on systems for mentoring, expert inputs, peer support and self-reflection. To bridge the gap between initial preparation and continuing development, new teachers' early development should be embedded in a culture of continuing professional learning. Where schools develop a culture of critical inquiry, promote ongoing team learning, and foster collegiality, schools can “move beyond ‘assisting’ new teachers and engage them in their professional culture of teaching” (OECD, 2019, p. 113^[3]).

Quality induction processes also need to consider implementation challenges for effective mentoring, such as preparation, workloads and experience. While a sufficient knowledge base about these aspects is lacking, some countries have sought to promote standards for mentoring (OECD, 2019^[3]). Some OECD review countries also provide direct capacity development for mentors responsible for supporting new teachers. In Estonia, for example, mentors receive support in developing their mentoring skills, participate in two to three yearly mentor seminars, and have access to electronic lists to collaborate even when they are not face-to-face (Haridus- Ja Taedusministeerium, 2016^[73]).

The TALIS 2018 asked principals about the provisions which were part of the induction processes at their school (OECD, 2019^[4]). While induction typically includes processes such as planned meetings with and supervision by the principal and/or experienced teachers, the extent to which team teaching or teaching load reductions are included differs widely across countries (see Figure 4.3), pointing to potential trade-offs in the way resources are used. Kazakhstan and the Netherlands illustrate these different resource decisions, with the former investing more in team teaching, and the latter in a reduced teaching load for beginning teachers. Most countries provide more opportunities for team teaching than teaching load reductions, and few countries provide both for a large share of teachers (e.g. England [United Kingdom], Iceland, Japan, New Zealand, Norway).

Figure 4.3. Induction activities (ISCED 2), 2018

Percentage of teachers for whom the following provisions are included in teacher induction at their school, based on principal reports



Notes: Principals reported which provisions were included in teacher induction at the school at the time of the survey. Principals' responses were merged to teacher data and weighted using teacher final weights. The sample is restricted to teachers who took part in induction activities at the current school based on teachers' responses and also have access to induction activities based on principals' responses. Countries and economies are ranked in ascending order of percentage of teachers for whom team teaching with an experienced peer was included as part of induction. The number of countries or economies included in the OECD average is indicated next to that average. On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported in this figure, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

Source: OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, OECD Publishing, Paris, <https://doi.org/10.1787/1d0bc92a-en>, Table I.4.42.

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4.2. Teachers' continuing professional learning

A substantial body of historical education research has documented the limited opportunities teachers have had for ongoing learning and collaboration. In the 1980s and early 1990s, the research and policy community grew increasingly aware of the atomised nature of schools and the teaching profession. In response to the “egg-crate” model of teaching in which each teacher’s classroom was his or her domain, and each school operated largely independently from others, with little opportunity for peer feedback and collaboration, significant research interest developed in promoting cross-teacher and cross-school collaboration and professional learning (Garet et al., 2001^[74]; Sparks, 1994^[75]; Little, 1993^[76]; Rosenholtz, 1985^[77]). While the focus on professional learning ebbed somewhat in the early 2000s, leading scholars and policy makers have since re-launched an interest in understanding how teachers’ and school leaders’ professional contexts support their ongoing learning and improvement (Johnson, Kraft and Papay, 2012^[78]; Timperley et al., 2007^[79]).

4.2.1. Understanding professional learning as a coherent process

As the OECD has argued previously, understanding professional learning as a series of disconnected activities such as individual courses, training sessions, group processes, ongoing training requirements and so on, will fail to systematically support improvement processes (Kools and Stoll, 2016^[80]). Improvement of practice must be contextualised in clear system-wide and school goals, and then schools must redefine themselves as learning organisations for all adults as well as children (Kools and Stoll, 2016^[80]). With the support of the OECD, Wales (United Kingdom) has undertaken a series of policy and practice reforms to promote one such framework for continuing school learning: Schools as Learning Organisations (see Box 4.6).

Box 4.6. Developing schools as learning organisations in Wales (United Kingdom)

The Welsh Government considers the development of its schools as learning organisations as vital for supporting its schools to put its new curriculum into practice. Wales’ model of schools as learning organisation has been developed through a process of “co-construction” involving stakeholders from different levels of the education system.

The model focusses the efforts of school leaders, teachers, support staff, parents, (local) policy makers and all others involved into realising the seven dimensions of the model in its schools: i) developing a shared vision centred on the learning of all learners, ii) creating and supporting continuing learning opportunities for all staff, iii) promoting team learning and collaboration among all staff, iv) establishing a culture of enquiry, innovation and exploration, v) embedding systems for collecting and exchanging knowledge for learning, vi) Learning with and from the external environment and wider learning system and vii) modelling and growing learning leadership. These action-oriented dimensions and their underlying elements highlight both what a school should aspire to and the processes it goes through as it transforms itself into a learning organisation.

The realisation of the “four purposes” of the new school curriculum is placed at the heart of the model. These refer to developing children and young people into “ambitious capable and lifelong learners, enterprising and creative, informed citizens and healthy and confident individuals”.

Informed by the analysis of an OECD report, the Welsh Government and four regional consortia (i.e. school improvement services) are supporting their schools to develop as learning organisations. At the time of writing, an implementation plan that forms an integrated part of larger curriculum reform effort was being finalised. Several activities had been undertaken already, were planned or ongoing as part of this plan. These include the integration of the model into leadership development programmes (autumn 2018); an online self-assessment survey that can be freely used by school staff (May 2019); the ongoing development of a school self-evaluation and development planning toolkit in which the model is likely to be integrated (started in May 2018); and ongoing efforts by the Welsh Government Education Directorate and several middle-tier organisations to develop themselves into learning organisations.

Source: OECD (2018), *Developing Schools as Learning Organisations in Wales*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264307193-en>.

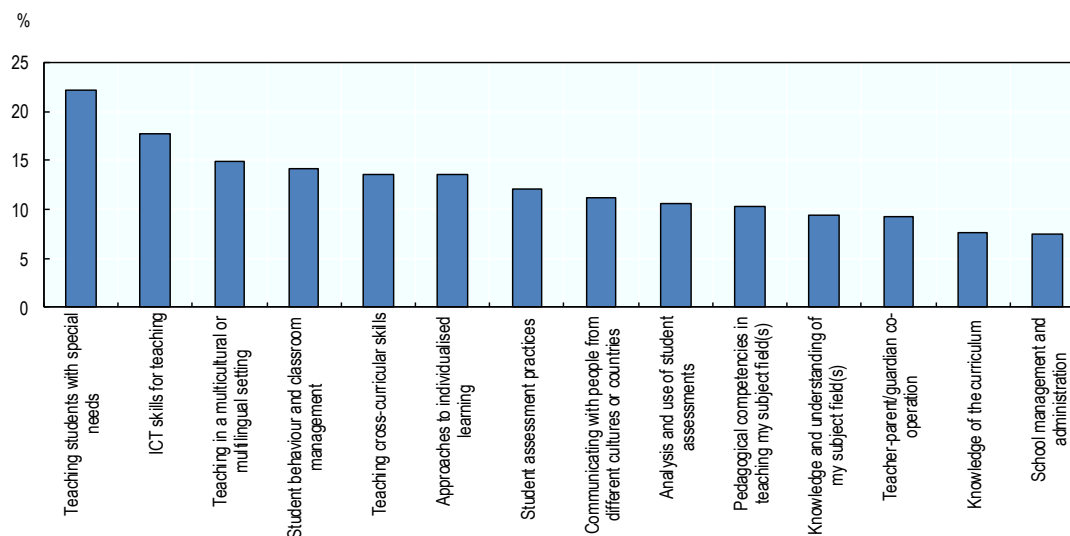
Various other frameworks exist in which to situate adult learning activities in schools, though many contain similar themes. This section addresses those areas that were of highest relevance to the OECD review and participating countries: i) continuing learning opportunities, ii) team learning and collaboration, iii) systems for benefiting from internal and external knowledge development and iv) evaluation and appraisal.

Effective adult learning activities may support teachers in meeting evolving needs, such as inclusion, the use of new technologies, cross-curricular teaching and individualised learning. As Figure 4.4 reveals, it is such areas where staff express particular needs for professional learning, namely teaching students with special educational needs and integrating new technologies.

Mechanisms to monitor teachers’ engagement in professional learning are not widespread. As a result, there was little systematic knowledge about levels of teachers’ competency development and potential competency gaps in OECD review countries.

Figure 4.4. Teachers' needs for professional development (ISCED 2), 2018

Percentage of teachers reporting a high level of need for professional development in the following areas
(OECD average-31)



Notes: Values are ranked in descending order of the percentage of teachers who reported a high level of need for professional development in the above topics. Students with special needs are those for whom a special learning need has been formally identified because they are mentally, physically, or emotionally disadvantaged. ICT refers to Information and communication technology. The number of countries or economies included in the OECD average is indicated next to that average. On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported in this figure, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

Source: OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, OECD Publishing, Paris, <https://doi.org/10.1787/1d0bc92a-en>, Table I.5.21.

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4.2.2. Continuing learning opportunities

Access and motivation

The experience of the OECD review suggests that relatively few requirements exist with respect to teachers' professional development. As Table 4.3 shows, in slightly more than half of OECD reviews countries are there requirements for teachers to pursue professional development (also see Table A.5. in Annex A). In a number of countries, still, there are dedicated financial incentives to complete professional development (also see Chapter 2).

Some systems provide incentives for teachers to develop their knowledge and competencies by completing postgraduate studies. In the French Community of Belgium and Colombia, teachers may move up in their salary scales by completing postgraduate qualifications, while teachers in Lithuania have a statutory right to sabbatical leave up to one year every eight-year period (although social security is not covered during this time). While not linked to salary progression, teachers in Uruguay can take postgraduate degrees depending on their career stage at the country's Institute for Advanced and Higher Studies (*Instituto de Perfeccionamiento y Estudios Superiores*, IPES), the main provider of teacher professional development and continuing education in the country.

Table 4.3. Requirements and incentives for participation in professional development (ISCED 1-3), 2018

OECD review countries, public schools

Requirement																			
Entitlement																			
Financial incentive																			
Country	Austria	Belgium (Fl.)	Belgium (Fr.)	Chile	Colombia	Czech Republic	Denmark	Estonia	Iceland (1)	Kazakhstan	Lithuania	Mexico	Portugal	Slovak Republic	Slovenia	Spain	Sweden	Turkey	Uruguay

Notes: Financial incentives comprise direct links between professional development and compensation or career progression. Requirements refers to regulations that stipulate that teachers need to take part in professional development and possibly the specific minimum duration. Entitlement refers to time or financial support to participate in professional development. Links to compensation or career advancement refer to requirements for completion of professional development to advance in the salary scale and/or career ladder; and salary allowances or bonuses for completion of professional development.

1. Iceland: ISCED 3 only.

For full comparative tables, see Table A.5. in Annex A.

Sources: Based on Country Background Reports and Country Review Reports (<http://www.oecd.org/education/school-resources-review/schoolresourcesreview-reportsforparticipatingcountries.htm>), and Eurydice descriptions of national education systems (https://eacea.ec.europa.eu/national-policies/eurydice/national-description_en).

Formal requirements and financial incentives are, however, not always effective, as a mandate of a set of hours or salary supplements tied to the completion of professional development can quickly become a bureaucratic checklist to complete, rather than an opportunity for true skill and capacity development. As analysis of data from the TALIS 2018 suggests, teachers' intrinsic motivation should be taken into account when prompting participation in professional development. On average across the OECD, after controlling for teachers' characteristics, teachers who were motivated to join the profession by the social contribution that teaching represents (as measured by a social utility index) tend to participate in more professional development activities (OECD, 2019, p. 156^[4]).

Irrespective of the requirements and incentives in place for teachers, time constraints and limited financial support may present barriers when it comes to accessing continuing learning opportunities. For the TALIS 2018, conflicts with work schedules (54%), financial cost (45%) and a lack of time because of family responsibilities (37%) featured among obstacles commonly cited by teachers (OECD, 2019, pp. 177, Table I.5.36^[4]).

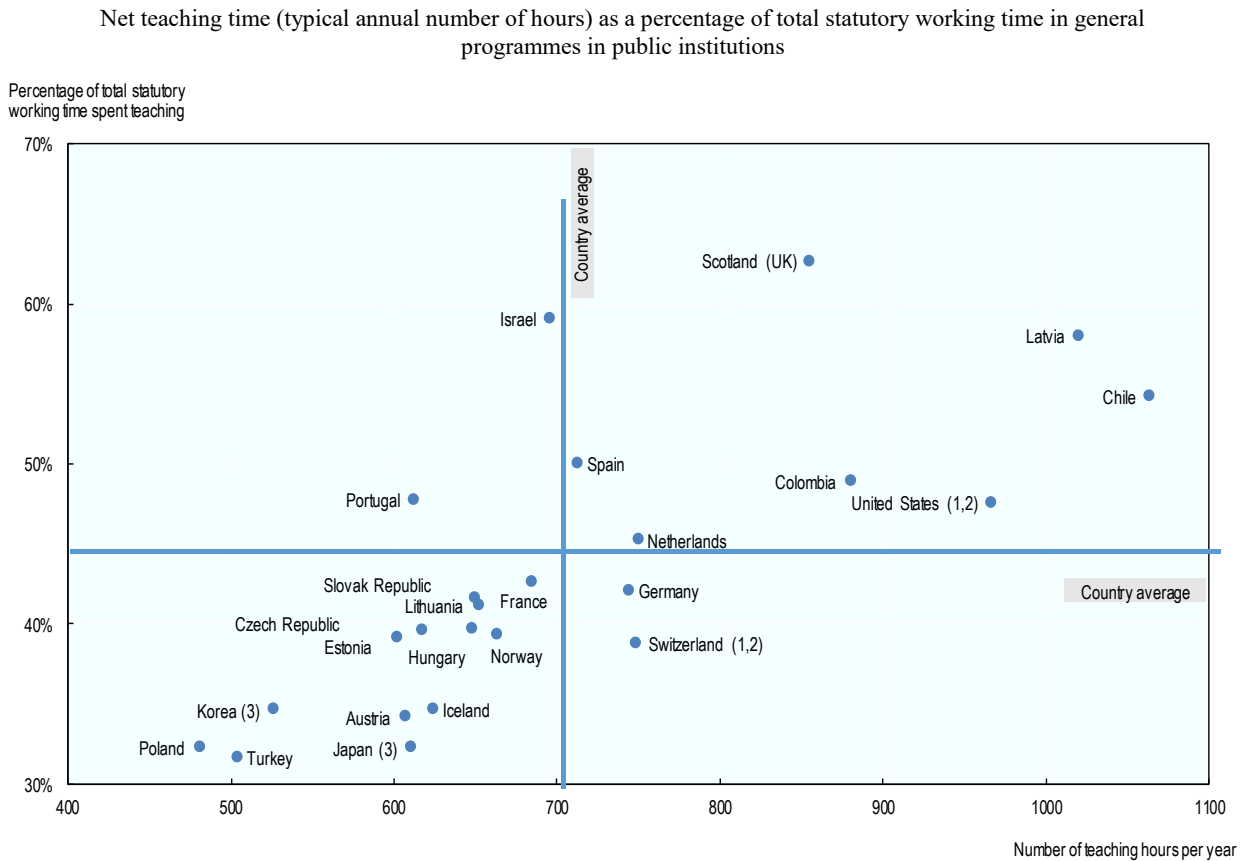
Among OECD review countries, particularly high shares of lower secondary teachers reported cost as a barrier to participation in professional development in Chile (77%), Colombia (77%) and Portugal (66%). Interestingly, in all three countries support for participation in the form of reimbursements or payment of costs was also relatively low, as reported by teachers (from 18% in Chile to 10% in Colombia and 6% in Portugal) (OECD, 2019, pp. 209, Table I.5.44^[4]).

This brings attention to the supports that are available to schools and teachers in terms of time and funding. As Table 4.3 again illustrates, a number of OECD review countries provide time and leave entitlements for professional learning and development (sometimes as part of collective bargaining agreements), ranging from six half-days per year (in addition to a mandatory six half-days) for secondary school teachers in the French Community of Belgium to 104 hours per year in Sweden (also see Table A.5. in Annex A). While comparative and systematic knowledge is lacking, some schools may experience challenges in securing substitute teachers to permit teachers to leave their classrooms. In Denmark, for example, stakeholders in schools and municipalities raised concerns during the review visit that they lack support for the release of teachers in order for them to participate in learning opportunities (Nusche et al., 2016^[30]).

This is why leave entitlements may be tied to specific requirements how this time may be taken or why specific arrangements are in place for the school calendar. In the French Community of Belgium, for instance, teachers are both required and entitled to a number of half-days of professional development and schools can suspend courses up to six times per year for a half day in order that teachers may pursue their additional training. Outside of these half-days, teachers pursuing additional training must be replaced by other teachers in the school, student teachers or substitute teachers (within a budget determined by the education authorities of the Community) (Ministère de la Fédération Wallonie-Bruxelles, 2016^[70]). In Portugal, teachers are allowed to take no more than five consecutive days out of their eight days of entitled training (Liebowitz et al., 2018^[19]), while in Austria, teachers must undertake their required hours of professional development in the lesson-free time (Nusche et al., 2016^[22]). In Colombia, the school calendar and teachers' working time arrangements include a dedicated number of five weeks for institutional development during which teachers may participate in continuing learning (Radinger et al., 2018^[16]).

In the large majority of OECD countries, however, substantial time in teachers' schedules exists outside of mandatory teaching hours (also see Chapter 2). As Figure 4.5 shows, in only five of 24 school systems with available data do teachers spend more than 50% of their total statutory working time teaching. While teachers schedules are clearly taxed with many responsibilities outside of time spent teaching in front of students, ample room exists to restructure grading, administrative and other requirements to provide additional release time opportunities to pursue professional learning. This depends on the range of responsibilities expected of teachers in a particular context.

Funding arrangements for covering the costs of participation can also be an issue. For example, in the Slovak Republic, funding for professional development is included in the block grant for salary costs (1.5% of the school's allocated amount for salaries). As the OECD review found, teachers reported difficulty in accessing professional development due to a lack of financial support from the school budget (OECD, 2017^[81]).

Figure 4.5. Teachers' working time spent teaching (ISCED 2), 2017

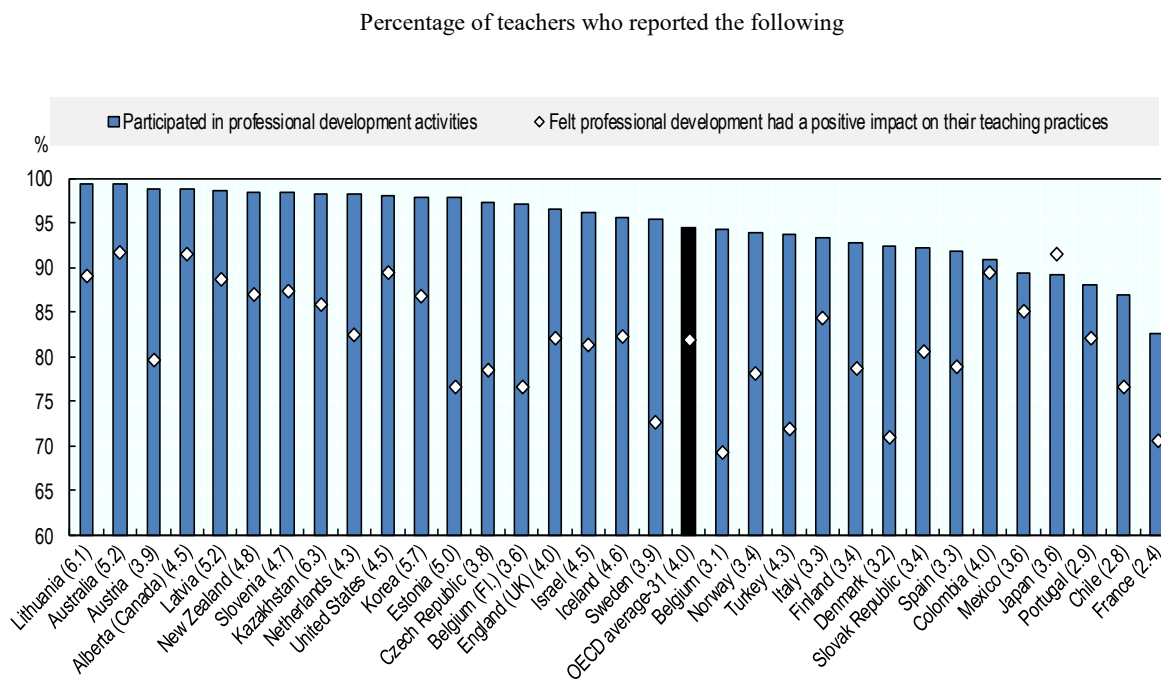
Note: On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported in this figure, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

1. Actual teaching time.
2. Reference year differs from 2018.
3. Average planned teaching time in each school at the beginning of the school year.

Source: OECD (2019), *Education at a Glance 2019: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/f8d7880d-en>, Figure D4.4., Tables D4.1a and D4.1b.

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While requirements, incentives, barriers and supports shape how individual teachers have access to and participate in professional development in a country, lower secondary teachers report high levels of participation in some kind of professional development across OECD countries for TALIS 2018 (see Figure 4.6). With some exceptions, there are also no significant differences in participation across school types, locations or socio-demographic composition.⁷ However, when asked whether any of the professional learning activities they had taken part in had an impact on their teaching practices, 18% of teachers on average across OECD countries felt this was not the case. In Belgium, Denmark, France, Sweden and Turkey, less than 75% of teachers felt their professional development had a positive impact on their practice (again see Figure 4.6) (OECD, 2019, pp. 155, 156, 160, Tables I.5.1, I.5.2 and I.5.15_[4]). Issues related to the effectiveness of professional development are discussed in the next section.

Figure 4.6. Participation in professional development activities (ISCED 2), 2018

Notes: Refers to professional development activities in which teachers participated in the 12 months prior to the survey. The average number of different professional development activities teachers participated in is included in brackets with country names. Countries and economies are ranked in descending order of the percentage of teachers who participated in professional development activities in the 12 months prior to the survey. The number of countries or economies included in the OECD average is indicated next to that average. On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported in this figure, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

Source: OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, OECD Publishing, Paris, <https://doi.org/10.1787/1d0bc92a-en>, Tables I.5.1, I.5.7 and I.5.15.

StatLink  <https://doi.org/10.1787/888934026677>

Provision, content and quality assurance

Professional learning can be conceptualised more broadly not only as a vehicle for “personal and professional accomplishment”, but also as “a life-long stance and long-term collective project with a democratic agenda” (Cochran-Smith and Lytle, 2001^[82]). Typically, however, it is more narrowly conceptualised as an avenue for changing teachers’ beliefs and attitudes, teachers’ practices, and student learning outcomes (Guskey, 1986^[83]).

Research based on the TALIS and PISA suggests that professional development activities not only provide teachers with necessary skills, but also improve their sense of self-efficacy and job satisfaction (OECD, 2019^[4]; Mostafa and Pál, 2018^[84]). Many have, however, expressed concerns about the effectiveness of traditional professional development, in the form of one-time or short-series of externally provided courses. Impact evaluations from the United States frequently find that professional development fails to improve teaching quality or student outcomes (Garet et al., 2016^[85]; Harris and Sass, 2011^[86]; Glazerman et al., 2010^[66]; Garet et al., 2008^[87]; Jacob and Lefgren, 2004^[88]).

Some non-causal evidence indicates important features that are suggestive of more effective traditional professional development. These include embedding learning in the already ongoing work of schools, continuing learning over an extended period, and a focus on a concrete set of teaching skills (Opfer, 2016^[89]; Desimone and Garet, 2015^[90]; Hill, 2007^[91]; Garet et al., 2001^[74]). Yet, recent syntheses and reviews of studies estimating the extent to which these features produce improved instruction and student outcomes find decidedly mixed effects (Kennedy, 2016^[92]; Scher and O'Reilly, 2009^[93]).

Several OECD review countries have attempted to integrate such “best practices” into the delivery of professional development. In Portugal, for instance, a network of School Association Training Centres (*Centros de Formação de Associação de Escolas*, CFAE) has been created to learn about schools’ pedagogical and curricular needs, and deliver locally provided training courses corresponding to school and teacher needs (Liebowitz et al., 2018^[19]).

Given concerns that traditional professional development tends to be disconnected from the immediate needs of teachers in schools, Colombia launched a scholarship programme for teachers to pursue further study, but to link this to their local context. The Scholarships for Teaching Excellence programme (*Becas para la Excelencia Docente*) encourages teachers to work in their school and develop and implement a school improvement project centred on classroom practice (Figuerola. M. et al., 2018^[94]; Radinger et al., 2018^[16]).

Table 4.4 provides an overview of the types of external providers that may offer professional development activities, ranging from public education authorities to teacher education institutions and other tertiary education institutions, professional organisations and private and non-governmental providers. In some OECD review countries, central teacher development institutions play an important role in steering provision, maintaining oversight and ensuring quality. In the French Community of Belgium, professional development is co-ordinated by the Institute for In-Service Training (*Institut de la Formation en cours de Carrière*, IFC) (Ministère de la Fédération Wallonie-Bruxelles, 2016^[70]), while in Chile, a similar institution, the Centre for Pedagogical Training, Experimentation and Research (*Centro de Perfeccionamiento, Experimentación e Investigaciones Pedagógicas*, CPEIP) is responsible for co-ordinating and accrediting supply, defining priority areas, and supplying key offerings across the country (Centro de Estudios MINEDUC, 2016^[95]).

Table 4.4. Professional development providers, 2018

OECD review countries, public schools

Country	Training providers
Austria	Courses primarily offered by university colleges of teacher education (<i>Pädagogische Hochschulen</i> , PHs), organised in-house or for various schools.
Belgium (Fl.)	A range of different institutions including universities, university colleges, pedagogical guidance services of school networks, private companies and the Ministry of Education and Training.
Belgium (Fr.)	A range of training operators (<i>Hautes écoles</i> , universities, teachers' associations, continuing education agencies, etc.), co-ordinated by the Institute for In-Service Training (<i>Institut de la Formation en cours de Carrière</i> , IFC).
Chile	Range of providers (e.g. labour associations, education consulting companies and municipal training centres), co-ordinated and accredited by the <i>Centro de Perfeccionamiento, Experimentación e Investigaciones Pedagógicas</i> (CPEIP) and listed in the National Public Training Registry (<i>Registro Público Nacional de Perfeccionamiento</i> , RPNP).
Colombia	Regional and local education authorities certified to provide education (certified territorial entities) establish a territorial teacher education committee (<i>Comité Territorial de Formación de Docentes</i> , CTFD) and develop a Territorial Training Plan for Teachers and School Leaders (<i>Plan Territorial de Formación para Docentes y Directivos docentes</i> , PTFD).
Czech Republic	A range of accredited public and private training providers, including the National Institute for Further Education (<i>Národního institutu pro další vzdělávání</i> , NIDV) and its 14 regional centres, and institutions for further education of teachers founded by the regions.
Denmark	Danish School of Education, university colleges and municipalities (ISCED 1-2); Institute of Philosophy, Education and Study of Religions at the University of Southern Denmark (ISCED 3 general); National Centre for Vocational Education (ISCED 3 vocational); also specialised training institutions, teachers' associations and the Ministry for Education.
Estonia	A range of different institutions including higher education institutions, teacher education institutions, individual schools, teachers' professional organisations, municipalities and private companies.
Iceland	Teacher education institutions.
Kazakhstan	Regional branches of the National Center of Professional Development "Orleu"; "Higher-level" training programmes led by the Center of Teaching Excellence at Nazarbayev Intellectual Schools in partnership with international partners.
Lithuania	National and local Education Development Centres (<i>Ugdymo plėtotės centras</i>), methodological centres at schools, municipal teacher education centres, professional development providers at higher education institutions, other institutions (e.g. non-governmental organisations).
Mexico	Agreements between the ministry of education and higher education institutions.
Portugal	Higher education institutions; School Association Training Centres (<i>Centros de Formação de Associação de Escolas</i> , CFAE); Municipal and inter-municipal run initiatives; Not-for-profit professional or scientific association training centres; Ministry of Education central services.
Slovak Republic	A range of different institutions including higher education institutions and educational organisations of the Ministry of Education (the National Institute of Education, the Methodology and Pedagogy Centre and the National Institute of Vocational Education).
Slovenia	Higher education institutions, public institutes, who are providers of different continuing professional development programmes, private providers.
Spain	National Institute of Educational Technologies and Teacher Training (<i>Instituto Nacional de Tecnologías Educativas y de Formación del Profesorado</i> , INTEF), Teachers and Resources Centres (linked to specific schools in Autonomous Communities), higher education institutions, professional associations, trade unions.
Sweden	Primarily higher education institutions and regional development centres, also government authorities, the Swedish National Agency for Education (<i>Skoleverket</i>), teachers' trade unions, independent educational companies and civil society organisations.
Turkey	A range of different institutions including universities, foundations, unions and private companies.
Uruguay	A number of different institutions including higher education institutions such as the <i>Universidad de la República</i> (UDELAR) and private universities (Universidad ORT, Universidad de Montevideo and Universidad Católica); and the Institute for Advanced and Higher Studies (<i>Instituto de Perfeccionamiento y Estudios Superiores</i> , IPES), Regional Units of Continuous Education (<i>Unidades Regionales de Educación Permanente</i> , UREP) (ISCED 2-3 vocational).

Note: For full comparative tables on teacher professional learning, see Table A.5. in Annex A.

Source: Based on Country Background Reports and Country Review Reports (<http://www.oecd.org/education/school-resources-review/schoolresourcesreview-reportsforparticipatingcountries.htm>), and Eurydice descriptions of national education systems (https://eacea.ec.europa.eu/national-policies/eurydice/national-description_en).

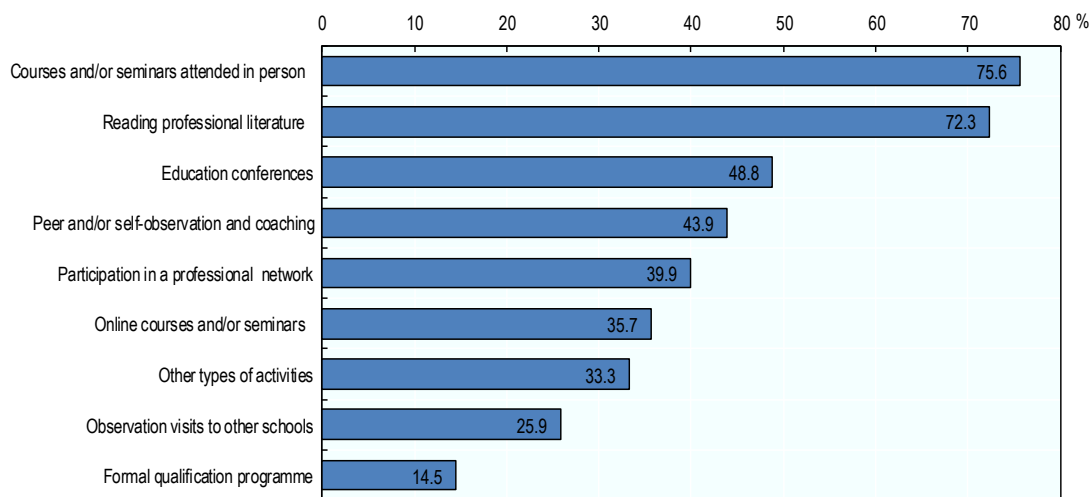
For the TALIS 2018, more than one in three lower secondary teachers (38%), on average across OECD countries, cited a lack of a relevant professional development offer as a barrier to participation (OECD, 2019, pp. 209, Table I.5.36_[4]). In various OECD review countries, there was uncertainty about the quality of provision and the related quality assurance processes. In the Czech Republic, for instance, an open market for external training providers allows for schools to select from a competitive range of training courses, but there appeared to be few mechanisms to monitor if teacher learning needs were being met (Shewbridge et al., 2016_[96]).

In other systems, there were concerns about the planning of teachers' participation in professional development. In Denmark, professional development seemed to be at times planned school-wide for all teachers to participate in without differentiating based on teachers' needs and ownership for their learning. Other times, it was more an individual teacher's choice than a sound assessment of a teacher's development need to better meet the needs of their students (Nusche et al., 2016_[30]). Planning of teachers' professional learning may also be influenced by priorities that are set by education authorities (e.g. through education strategies, dedicated funding or targeted programmes).

Figure 4.7 shows the types of activities which teachers participated in, on average across OECD countries, as reported for TALIS 2018, highlighting the role of courses, seminars, conferences and self-study in professional learning (OECD, 2019_[4]).

Figure 4.7. Type of professional development attended by teachers (ISCED 2), 2018

Percentage of teachers participating in the following professional development activities (OECD average-31)



Notes: Refers to professional development activities in which teachers participated in the 12 months prior to the survey. Values are ranked in descending order of the percentage of teachers who participated in the above professional development activities. The number of countries or economies included in the OECD average is indicated next to that average. On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported in this figure, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

Source: OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, OECD Publishing, Paris, <https://doi.org/10.1787/1d0bc92a-en>, Table I.5.7.

StatLink  <https://doi.org/10.1787/888934026696>

Certainly, such formal professional development activities, in the form of university-affiliated courses, centrally or locally provided trainings or online activities are only one component in a coherent professional learning plan. Given that the majority of skills required of teachers are not easily transmitted in a set number of days or frequencies of trainings, practical and regular coaching and mentoring opportunities hold particular promise for promoting reflection and improvement among teachers. Research shows professional learning should make a specific connection to an individual teachers' practice or to a problem within the school (Timperley et al., 2007^[79]). Teachers will not improve by understanding theory and evidence alone, but through numerous activities such as observation, demonstration, practice, and feedback (Joyce and Showers, 2002^[97]).

Assigning individualised, structured instructional coaching to teachers, either with designated positions (Kraft and Blazar, 2016^[59]; Blazar and Kraft, 2015^[98]) or matching effective teachers with less effective ones (Papay et al., 2016^[99]), has shown promise in improving students' learning. A recent meta-analysis of 62 studies employing causal designs to estimate the effects of coaching on teachers' instructional practice and student outcomes documents improvement on the order of 0.49 standard deviations on instruction and 0.18 standard deviations on achievement (Kraft, Blazar and Hogan, 2018^[63]).

However, critically important to policy makers, this same meta-analysis found the benefits of coaching were substantially reduced in larger coaching programmes serving over 100 teachers at a time. The authors note several explanations for this variation across coaching programme size. Of most relevance here is the challenge in identifying high-quality coaches for large numbers of teachers. This challenge is only amplified at the leadership level since far fewer experienced school leaders exist.

This might imply that systems interested in taking greater advantage of coaching strategies might benefit from additional resources to promote systemic quality as the quality of the coaching seems particularly salient to its effectiveness. Box 4.7 highlights a promising coaching initiative from Colombia.

Box 4.7. Large-scale teacher coaching in Colombia: *Programa Todos a Aprender*

Let's All Learn (*Programa Todos a Aprender*, PTA) is a large-scale programme initiated by the education ministry in 2011 and implemented since 2012. The project has been funded through the ministry's budget for investment programmes and received almost half of the budget of the ministry's quality directorate for school and pre-school education in 2017, about COP 130 billion (Colombian pesos). The programme originally targeted basic primary education (Grades 0 to 5) and has pursued a multi-dimensional approach to improve student learning in language and mathematics. This has included pedagogical components related to the curriculum and educational materials, situated professional learning, school management and community involvement.

The programme's main objective has been to build teachers' skills and competencies, and to improve their practices in the classroom through coaching and mentoring provided by tutors that are selected from across the country and prepared for and supported in their role. Tutors provide situated professional development to teachers within participating schools. They work directly as peers with individual teachers in the classroom, observe teachers' practices and provide feedback on pedagogical and didactic strategies. They work with groups of teachers and organise peer learning activities and discussions around pedagogical topics within schools. Tutors are also expected to support other activities and pedagogical processes and provide support for the development and implementation of student assessments, the use of curricular guidelines, the selection and use of materials and textbooks, and the development

of the *Día E*, a day in the school calendar to discuss school development within the school, for example.

By 2017, the programme had employed 97 trainers and trained 4 100 tutors. Tutors had worked with 109 357 teachers in 13 455 sites of 4 476 public schools (which are organised as clusters) in 885 municipalities in all of the country's 32 departments. Between 2012 and 2017, the participation of public schools in the programme had grown by 88% and the number of participating teachers had more than doubled. The programme prioritises schools with low achievements as measured by the standardised student assessments for Grades 3 and 5 (*Pruebas Saber 3* and 5). Schools achieving their improvement objective in the standardised assessments end their participation in the programme, thus making resources available for support to other schools. While the programme was not designed as a strategy targeting rural schools, it has had a particular impact on schools in rural and remote areas. Recently, the programme was extended to the first two years of basic secondary education (Grades 6 and 7).

Source: Radinger, T., A. Echazarra, G. Guerrero, J. P. Valenzuela (2018), *OECD Reviews of School Resources: Colombia 2018*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264303751-en>.

4.2.3. Team learning and collaboration

The most powerful form of professional learning occurs when it is integrated in everyday work and involves collecting, evaluating and acting on feedback to modify teaching practice. Individuals often need to see evidence of impact before changing practice. Collaborative learning communities that entail active and shared discussions can provide safe environments for teachers to challenge tacit assumptions on what works and why (Timperley et al., 2007^[79]). Opportunities for collaborative learning, then, have the potential to set teachers on a course of continuous improvement of their teaching practice related to the needs of the students in their class and school (Ronfeldt et al., 2015^[100]). As an analysis of data from the PISA 2015 moreover suggests, teacher collaboration is positively and significantly associated with teacher satisfaction (Mostafa and Pál, 2018^[84]).⁸

Collaboration and peer learning also seem to be important for making the most of other types of staff, such as learning support specialists (Masdeu Navarro, 2015^[101]). Where professional pedagogical, health or social support staff work in or with schools, they can support professional learning within the school drawing on specific areas of expertise. School librarians, for example, can support teachers in the development of media and literacy skills (Lance and Kachel, 2018^[102]) while social workers can support teachers struggling with student behavioural issues (Finigan-Carr and Shaia, 2018^[15]).

To provide two examples from the OECD review, in Denmark, specialist teachers with a focus on student behaviour, psychology and well-being (*Adfærd-Kontakt-Trivsel*, AKT) also initiate training in schools related to the development of social skills and inclusive communities, or general health education with a focus on social well-being and the prevention of bullying and violence at school (Nusche et al., 2016^[30]). In Uruguay, a policy to promote digital inclusion and greater and easier access to education and culture through the use of information and communication technology (ICT) (*Plan Ceibal*) entailed the creation of support teacher roles (*Ceibal* teachers). These specialised teachers give advice and help teachers to use laptops in their teaching in the best possible way (Santiago et al., 2016^[20]).

As data from the TALIS, however, suggest, peer learning and collaboration among teachers is still not yet commonplace. For TALIS 2013, large proportions of teachers reported never receiving feedback from either assigned mentors (81% on average across participating countries) or other teachers (58% on average) (OECD, 2014^[42]). Similarly, for TALIS 2018, a considerable share of teachers reported not having participated in formal peer and/or self-observation and coaching (56%) or a network for professional development (60%) (see Figure 4.7) (OECD, 2019^[4]).

In fact, as Table 4.5 demonstrates for OECD review countries, there is minimal systematic support for opportunities for teacher collaboration on teams or to provide each other regular feedback systems (also see Table A.5. in Annex A). In the French Community of Belgium and in Chile, a requirement exists for schools to develop strategies for collaborative work as part of their school development plans. Austria and Uruguay provide additional staff resources and time for team teaching, while the weekly working time for teachers in Portugal includes dedicated time for collaboration, and the school calendar in Colombia includes five weeks' time for institutional development.

Table 4.5. Teamwork among teachers within schools (ISCED 1-3), 2018

OECD review countries, public schools

Country	Requirement	Policy or programme	Dedicated resources	Structures or roles
Austria			✓	✓
Belgium (Fl.)				
Belgium (Fr.)	✓			
Chile	✓	✓		✓
Colombia		✓	✓	✓
Czech Republic				✓
Denmark				
Estonia				✓
Iceland				
Kazakhstan				✓
Lithuania		✓		
Mexico				✓
Portugal			✓	✓
Slovak Republic				✓
Slovenia				✓
Spain		✓		✓
Sweden		✓		
Turkey				✓
Uruguay			✓	✓

Notes: For full comparative tables on teacher professional learning, see Table A.5. in Annex A.

Teamwork among teachers within schools refers to requirements for teachers to work together in teams (e.g. to provide feedback to peers) as well as allocated resources (e.g. structures, scheduled time, programmes) allowing teachers to work together on curricular, pedagogical, cultural or administrative tasks. Requirement refers to regulations for schools to define strategies for teamwork, for example. Dedicated resources include staff resources or time in the school year for collaboration, for example. Structures or roles refer to school-level teacher subject boards and the organisation of schools in clusters, for example.

Source: Based on Country Background Reports and Country Review Reports (<http://www.oecd.org/education/school-resources-review/schoolresourcesreview-reportsforparticipatingcountries.htm>).

Most often, collaborative opportunities seem to emerge systematically through specific structures within schools, such as subject committees and teams in Kazakhstan, and in the Czech and Slovak Republics. In some systems, there are initiatives that seek to facilitate learning between teachers of different types of school (e.g. academic secondary schools and new middle schools in Austria; private and public schools in Colombia).

Despite widespread stated interest, systems of job-embedded professional learning that create opportunities for teachers to observe each other teach for the purpose of providing feedback on pedagogical practices are few. Some school systems, however, have developed large-scale approaches to facilitate effective collaboration within and between schools. Box 4.8 describes successful collaboration practices in Ontario (Canada), where the creation of resources and protocols, and technical support have been critical tools in the codification of such practices:

- The Chilean Ministry of Education has promoted a four-pronged set of strategies for collaboration. These include: scheduled professional learning community time, lesson studies, video study clubs and investigation actions (MINEDUC, 2019_[103]). Teams of teachers participate in various methodologies intended to respond to student learning and teacher practice needs. While these strategies are just at their inception, they are particularly notable for their systematisation of group improvement practices.
- The Teacher-led Innovation Fund (TLIF) in New Zealand is a Ministry of Education initiative that provides teachers with time in their schedules and expert support to examine and improve upon their teaching practices. Teachers apply for funds, form collaborative inquiry groups, receive internal and external expert support, adapt practices as appropriate and document knowledge learned. The programme was evaluated in 2017 through survey and focus groups interviews, though not through an assessment of its impact on student learning. Participants strongly endorsed the opportunity to work in teams and reported more opportunities for peer pedagogical feedback; however, lower impacts were evident in shifts in teachers' practices or the quality of feedback they received (Sinnema, Alansari and Turner, 2018_[104]).
- In Sweden, the National Agency for Education (*Skolverket*) promotes teacher collaboration by solving problems and critically scrutinising others' work so that methods, assessment and grading are improved through the creation of systems. This form of professional learning has its roots in learning studies and lesson studies, practices pioneered in Japan in which teams of teachers work collaboratively to develop a lesson, teach it in turn, providing each other feedback over time with the goal of continuous improvement of the lesson (Swedish Ministry of Education and Research, 2016_[105]).

What is key in promoting collaborative work between teachers in schools is to invest in more than only creating time in teachers' schedules (which is an important precondition). This distinction between creating time in teachers schedules to meet and developing practices to promote collaboration was highlighted in the OECD review of the Czech Republic and Portugal (Liebowitz et al., 2018_[19]; Shewbridge et al., 2016_[96]). To make teams effective, it is crucial to support collaborative working cultures with evidence-based structures (Hargreaves and O'Connor, 2018_[106]). Done well, with dedicated and shared time in teachers' schedules, teacher leadership, protocols and attention to culture, this can increase teachers' job satisfaction and students' growth (Charner-Laird et al., 2017_[107]; Kraft and Papay, 2014_[108]; Johnson, Kraft and Papay, 2012_[78]). It is

important to keep in mind that improvements in teachers' collaboration often take time to manifest on external indicators, which can make the effectiveness of these interventions difficult to estimate.

Collaborative efforts that go beyond teachers and involve other staff working in schools likewise depend on the creation of both structures and cultures for collaboration. In Denmark, pedagogues (professionals that support human development more broadly from birth to old age and might be compared to recreational instructors, play workers or social workers in other contexts) have been working increasingly within schools as part of a broader reform of the organisation of the school day (Nusche et al., 2016^[30]). However, these professionals are most effective where schools already have a culture of collaboration, where school leaders promote a horizontal culture and explicit time is created in schedule to support collaboration (Jensen and Nielsen, 2018^[109]).

More generally, school leaders' competencies to support collaboration seems to be an important area for development, as reported by lower secondary principals themselves for the TALIS 2018. The promotion of collaborative work was the highest-ranked item when asked about their professional development needs, on average across OECD countries (OECD, 2019, pp. 169, Table I.5.32^[4]).

Box 4.8. Types of teacher collaboration in schools in Ontario (Canada)

The Canadian province of Ontario has invested significant energy in supporting teachers to successfully and effectively collaborate. The Ontario Ministry of Education produces a series of Capacity Building briefs that share actionable strategies for teachers and leaders to improve their practice. The ministry supports a process of “collaborative inquiry” in which teachers working in teams at their school research problems of practice. They generate evidence of what is and is not working at their school, make decisions about interventions, take action and then evaluate the effectiveness of their intervention before starting the cycle over again – a modified version of Deming’s Plan-Do-Study-Act cycle.

Among other actions that teachers are encouraged to participate in through collaborative inquiry include:

- **Co-teaching classes:** Involves a small group of teachers co-planning a lesson, co-teaching that lesson with assigned roles and reflecting on the student learning outcomes of the learning experience, including naming evidence of the impact on student learning.
- **Teaching Learning Critical Pathway:** Inquiry involving the gathering of data, analysing it to determine area of greatest student need, identifying relevant curriculum, reviewing current practice, determining assessments to be used to monitor student learning, planning a teaching block of time (approximately six weeks), sharing evidence of student learning with other teachers, developing and administering a culminating task, engaging in teacher moderation of student work from the task and reflecting on what has been learned and what are the next steps in teacher learning.

- **Looking at Student Work (LASW):** Educators collaboratively discuss student work based on common assessment criteria.
- **Deconstructing curriculum:** Educators examine curriculum expectations in order to understand what is written as it might be translated into what students learn.
- **Examining student learning progression:** Deconstruct a curriculum concept from when a child enters schools through many grades or levels to understand what a student is expected to learn at each level of the system.
- **Monitoring marker students:** Teachers pick a small number of students in a class, grade or school, share their assessment results with others in the school and document the use of teaching strategies against the learning outcomes for these students.

Sources: Nusche, D. et al. (2016), *OECD Reviews of School Resources: Denmark 2016*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264262430-en>; Ontario Ministry of Education (2014), Capability Building Series: Collaborative Inquiry in Ontario, https://thelearningexchange.ca/wp-content/uploads/2017/02/CBS_CollaborativeInquiry.pdf (accessed 22 November 2018); Deming, W. (2000), *The New Economics: For Industry, Government, Education*, MIT Press, Cambridge, MA.

4.2.4. Internal and external knowledge development

It is critically important that schools and systems codify the knowledge they gain about which teaching and other processes are and are not effective so that educators within them retain and build on this knowledge base, even when staff transitions occur.

Teachers and school leaders acquire different types of knowledge that may be either generalisable or apply to the particular context of their community and school, also since students' learning needs differ over time and from one child to another. For example, a particular class project that takes advantage of strong relationships with a highly engaging local industry leader to improve students' scientific inquiry skills may be only valuable for that particular school community. Ensuring that a successful class project in one year, with one particular teacher and group of students, can be replicated in future years can be a challenge. Documenting how these projects were then successfully executed can be critical to maintain their success where possible.

By contrast, teachers and school leaders across multiple locations may find that a particular mathematical instructional strategy using manipulatives may help to support the re-teaching of systems of linear equations for students who struggle initially to understand such problems conceptually or procedurally. In order to formally generalise such knowledge, a causal research design may be necessary. However, since such an evaluation is costly and time-intensive and requires specific knowledge and skills, an intermediate level of evidence for this practice may be to collect insights across multiple teachers on the effectiveness of such a strategy. Such a process of external knowledge development, that includes both cross-school and research-practice partnerships, is an equally critical part of developing the knowledge base in teaching. Practitioners and researchers alike have advocated for similar methods to assist in the process of developing externally generalisable knowledge across schools (Kane, 2018_[110]; Goldstein, 2012_[111]).

Many schools and school systems struggle to layer improvement strategies on top of each other. Often a school leader, education administration (be it central or local) or educational trend may mobilise efforts to implement a particular new approach or strategy. However,

when leadership changes or trends shift, schools and their staff struggle to retain whatever knowledge or skill may have been generated. When the next innovation arrives, prior learning can be lost.

Internal school evaluation processes can be one tool to address such challenges where procedural compliance does not dominate over quality assessment and learning (OECD, 2013^[112]), and the results of self-evaluation become living documents guiding daily life. A number of OECD review countries have made attempts at introducing more strategic planning into the way schools operate that may support internal knowledge codification processes. Austria, the Czech Republic and Denmark have all instituted efforts to make self-evaluation processes more robust and to document what steps are undertaken to respond to the self-evaluation and how effective these are or are not (Nusche et al., 2016^[22]; Nusche et al., 2016^[30]; Shewbridge et al., 2016^[96]).

Just as codifying internally developed knowledge is important, so too are networks for collaboration and knowledge-sharing across schools, also to enable schools to combat their isolated natures and gain insights from effective practices in near or distant peer institutions. Teachers, school leaders and other school staff stand to benefit from networks and school-to-school collaborations. Some have argued that learning is maximised when understood as mutually beneficial to all schools, where schools can share some of their local knowledge with others in some situations while benefiting from others' knowledge in other situations (OECD, 2013^[113]; Katz, Earl and Ben Jaafar, 2009^[114]).

Table 4.6 provides information about opportunities for collaboration across schools in OECD review countries (also see Tables A.5. and A.6. in Annex A). Box 4.9 provides examples from New Zealand and the United States. Generally, practices are still limited, as also principal reports for the TALIS 2018 suggest (OECD, 2019, p. 160^[4]). In some school systems, however, collaborative networks are built into the governance structures of schools (sometimes as part of initiatives to reorganise the school network to changing demands and to improve student transitions as discussed in OECD (2018^[28])). In Portugal, for instance, school clusters unite between two and 29 schools under a single administrative team. This structure permits some degree of knowledge sharing. Similarly, in Colombia, public schools operate as clusters of multiple school sites, while Austria has given schools the possibility to cluster as of 2019, as part of a wider school reform.

Table 4.6. Opportunities for teacher and school leader collaboration beyond the individual school (ISCED 1-3), 2018

OECD review countries, public schools

Country	Support from education authorities	Digital resource	Teacher professional body	School leader professional body
Austria			✓	
Belgium (Fl.)	✓	✓		
Belgium (Fr.)				✓
Chile	✓			
Colombia	✓	✓		
Czech Republic	✓			✓
Denmark	✓			
Estonia		✓	✓	✓
Iceland				
Kazakhstan		✓		
Lithuania	✓		✓	✓
Mexico				
Portugal			✓	✓
Slovak Republic		✓	✓	✓
Slovenia	✓	✓		✓
Spain				
Sweden	✓		✓	✓
Turkey		✓		
Uruguay	✓	✓		

Note: This table presents a summary of the data available for teachers and school leaders on line (see Table A.5. in Annex A for full comprehensive tables on teacher professional learning and Table A.6. in Annex A on school leader preparation and development). Depending on the country context, opportunities specified in this table may refer to teachers, school leaders, or both.

Opportunities for collaboration beyond an individual school include structures and resources that facilitate exchange, support and knowledge sharing (e.g. on curricular and pedagogical issues). This includes support from education authorities (e.g. through policies and programmes, the facilitation of meetings or conferences) (systematically or at their own discretion); digital resources (e.g. online communities of practice) and teacher and school leader professional bodies (e.g. unions and associations).

Sources: Based on Country Background Reports and Country Review Reports (<http://www.oecd.org/education/school-resources-review/schoolresourcesreview-reportsforparticipatingcountries.htm>).

In some school systems, collaboration between schools has been facilitated in the form of targeted policies or programmes. While such policies and programmes support the development of valuable experiences, they also entail a risk that practices are discontinued over time where the continuity of programmes depends on the political decisions of successive governments.

In Chile, for example, School Improvement Networks (*Redes de Mejoramiento Escolar*) promote learning between school leaders and other educational supervisory staff, while in Colombia, the ministry of education has established and funded a national School to School Programme (*Programa Escuela a Escuela*, previously called *Aliados 10*) to generate collaborative and collective work, to facilitate the sharing of successful experiences and to improve managerial, academic, pedagogical and community aspects of schools. In Lithuania, projects such as Creative Partnerships for Schools (*Kūrybinės partnerystės*) facilitate professional networking across schools. Similarly, in Slovenia, a Learning

Schools Network (*Mreža učećih se šola*) promotes the exchange of experiences and good practice systematically between schools.

In other systems, collaboration between schools has come at the initiative of respective education authorities which facilitate meetings and exchange among the principals of their schools (e.g. the Czech Republic, Denmark, Sweden and Uruguay). Frequently, school leader and/or teacher unions or associations provide additional opportunities for the exchange of experiences.

External advisory networks of pedagogical experts can also support knowledge creation and sharing within a system and across levels of governance (also see Chapters 2 and 3). In this respect, Denmark has developed an interesting initiative. Here, the education ministry has created a national body of learning consultants who work with schools and municipalities in their improvement efforts. As part of their work, learning consultants facilitate peer exchange through their work in groups of schools. The work of learning consultants is overseen by the ministry's Resource Centre for the Folkeskole (*Ressourcecenter for folkeskolen*), which brings together both evidence from research and practical knowledge from the field.

The learning consultant initiative thus creates a circle of learning and evidence that brings central knowledge to schools and municipalities, but also from the local to the central level. In addition, the ministry has been taking on an increasing role in collecting and disseminating knowledge of good practice, for example through the creation of a specific division for knowledge mobilisation. During the review visit, there seemed to be good levels of trust and co-operation between the central and local level in the effort towards making educational practice more evidence-based (Nusche et al., 2016_[30]).

Technology can be a key mechanism to codify findings across schools (see Table 4.6). OECD (2015_[115]) details several strategies to connect school networks for learning and codify knowledge via ICT platforms. Among OECD review countries, Uruguay provides an example through the country's *Ceibal* initiative and participation in a Global Learning Network (*Red Global de Aprendizajes*) (Santiago et al., 2016_[20]). In Austria, the federal education ministry facilitates learning among new secondary schools through its Centre for Learning Schools (*Bundeszentrum für lernende Schulen*), for schools to build up knowledge and expertise in areas of curriculum and instructional development.⁹ Specifically, the centre provides a virtual networking and learning space to connect teacher leaders (*Lerndesigner*) and promote their exchange and learning (Nusche et al., 2016_[22]). Similarly, in Kazakhstan and Turkey, teachers can share and search for pedagogical and curricular materials on dedicated digital platforms, for example.

Box 4.9. Collaboration between schools in New Zealand and the United States

In **New Zealand**, education and training providers (schools, kura [schools which reflect Māori language, knowledge and culture in philosophy and practice], early learning services and post-secondary providers) can seek permission from the education ministry to form a community of learning. If approved, the community of practice receives resources to allow time for teachers to work together on meeting the achievement challenges, drawing on each other's skills, knowledge and experience. Communities of learning can also adjust the roles of staff, and establish additional leadership and teacher (across community and within school) roles.

Source: New Zealand Ministry of Education, *Communities of Learning/Kāhui Ako*, <https://www.education.govt.nz/communities-of-learning> (accessed 15 June 2019).

In **the United States**, a large new initiative to generate codified learning across schools has recently been launched, funded by the Bill and Melinda Gates Foundation. Schools work together to identify and solve common challenges. In the Networks for School Improvement (NSI), schools use data to identify a problem, select a strategy to address the problem, set goals, and cycle through these steps to refine their approach. As part of the networks' participation in the programme, they commit to participating in formative and summative evaluations that will codify learning about the improvement process, including benefits of the network model. Unfortunately, the NSI is a too new project and no evaluations of it exist yet.

Source: Bill & Melinda Gates Foundation (2018), *Networks for School Improvement: Working together to help students succeed*, <http://k12education.gatesfoundation.org/what-we-do/networks-for-school-improvement> (accessed 3 May 2019).

4.2.5. Evaluation and appraisal

Staff evaluation, appraisal (terms used interchangeably across country contexts and in this report) and feedback are critical tools across public and private sectors to support growth and promote accountability for performance. In the education sector, the evaluation of teachers has occupied substantial attention in the policy and research communities over the past thirty years. More recently, similar attention has turned to the evaluation of school leaders (more on this below) (OECD, 2013_[112]).

The growing realisation of the impact of teachers on student achievement and the wide variability of teachers' impact on student learning and other outcomes, prompted interest in ways to improve the quality of the teaching pool through human resource management, including rigorous evaluation systems, among researchers and policy makers in a number of contexts (OECD, 2013_[112]; Rockoff and Speroni, 2011_[116]; Rockoff et al., 2012_[117]; Jackson, Rockoff and Staiger, 2014_[118]).

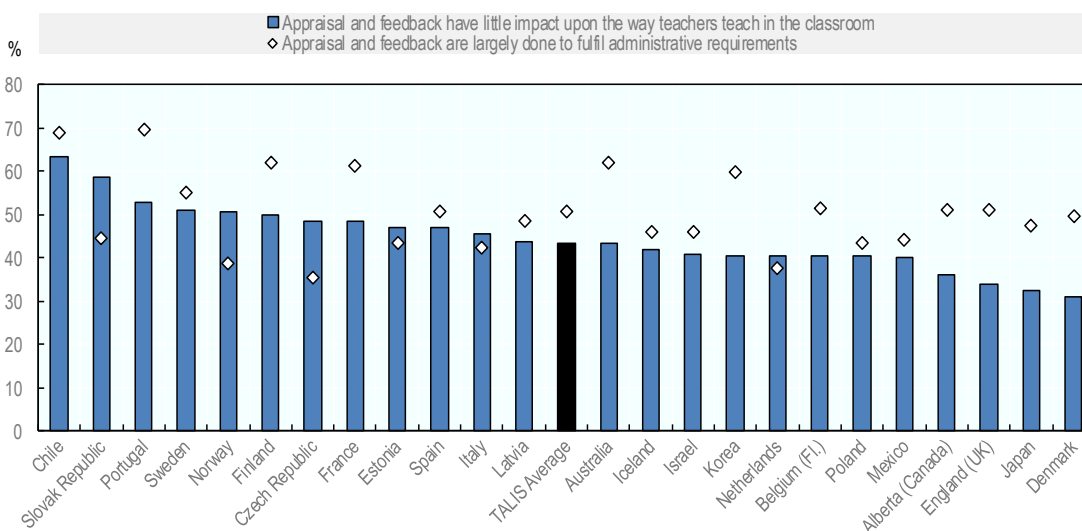
Some countries, such as Chile, Colombia and the United States, underwent major overhauls of their teacher evaluation policies resulting in new systems in which teacher evaluation had multiple implications, such as continued employment, promotion, and/or merit pay (Kraft and Gilmour, 2017_[119]; Figueroa. M. et al., 2018_[94]; Radinger et al., 2018_[16]; Santiago et al., 2017_[34]). In 2015, 30 out of 37 OECD and partner countries with available data legislated or required some form of teacher appraisal, most often in the form of regular performance appraisal (OECD, 2015_[120]).

Typically, stated policy around appraisal involves some dimensions of reviewing the performance of students under the teacher’s charge, some observation of the practitioner’s work – either through direct observation or portfolio review and sometimes via feedback from various stakeholders in the school community (OECD, 2013_[112]; OECD, 2015_[120]). Nevertheless, despite formal policies that, on paper, indicate outcome-based measures and observation of practice as critical factors in the appraisal process, concerns persist about whether the process generates improved skill in teachers and improved results for students.

At the time of writing, only data from the TALIS 2013 were available. As Figure 4.8 suggests, based on these data, many teachers believe that the appraisal process does not have substantial impact on classroom practice and that it is primarily conducted to satisfy bureaucratic requirements (TALIS average: 43% and 51% respectively) (OECD, 2014_[42]). These patterns are echoed in some OECD reviews in which teacher stakeholder groups reported little impact of teacher evaluation on their practice (Liebowitz et al., 2018_[19]; Radinger et al., 2018_[16]; Santiago et al., 2016_[20]). Various theories attempt to explain the persistence of the weak effects of appraisal on teaching practice, ranging from institutional cultures, to the loose coupling of system goals and instructional practice (Elmore, 2004_[121]), to school leader time constraints (Kraft and Gilmour, 2016_[122]).

Figure 4.8. Impact of teacher appraisal and feedback systems in schools (ISCED 2), 2013

Percentage of teachers who “agree” or “strongly agree” with the following statements about teacher appraisal and feedback systems in their school



Notes: Countries and economies are ranked in descending order in the percentage of teachers who agreed or strongly agreed that appraisal and feedback had little impact upon the way they teach. The TALIS average is calculated as the mean of the data values of all countries and economies participating in the survey.

Source: OECD (2014), *TALIS 2013 Results: An International Perspective on Teaching and Learning*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264196261-en>, Table 5.8.

StatLink  <https://doi.org/10.1787/888934026715>

Staff evaluation systems often fail to resolve tensions between multiple purposes

One central question related to staff evaluation is how to align appraisal with professional improvement. Many appraisal systems attempt to accomplish two goals: i) use the evaluation process to stimulate learning for the teacher or leader and ii) use the evaluation process to hold staff accountable for low effort or skill. These two aims can sometimes support each other and sometimes be in conflict with each other. In some school systems, the priorities of appraisal policy aim at one at the expense of the other. In other systems, appraisal policy attempts to accomplish both objectives simultaneously, but struggles to effectively resolve conflicts between the two ends.

Only one study credibly estimates the effect of teacher evaluation on teaching practice and student learning outcomes. Tyler and Taylor (2012_[123]) demonstrate in the city of Cincinnati (United States) that students improve by one-tenth of a standard deviation in mathematics when they are taught by a teacher who has been evaluated compared to a similar teacher who has not been evaluated. Importantly, this study examined an appraisal system with low stakes. Thus, while there appears to be value in the appraisal process, much more remains to be understood about how to leverage it to maximise teacher and student growth.

Among OECD review countries, there is a wide range of functions and purposes for which the appraisal process serves. In some cases it may influence teachers' eligibility to progress through career steps, in others it may impact their ability to earn additional pay (see Chapter 2). There are some exceptions, but in most cases, appraisal is relatively low stakes, particularly after teachers' first years. For these systems, it is hard to envision how the accountability goals of the evaluation system can be realised. While few systems emphasise the accountability dimensions of teacher appraisal, it is simultaneously true that appraisal's function as a formative tool to build capacity is also underdeveloped.

There exist limited structures for tying teacher learning to the outcomes of the appraisal process, either in the form of professional development or structured improvement plans. In Lithuania and Estonia, for example, few links exist between the results of the evaluation system and professional development opportunities for teachers despite well-developed appraisal system (Santiago et al., 2016_[71]; Shewbridge et al., 2016_[124]). In Uruguay, despite defined lesson observation protocols, frameworks for teaching excellence and expectations regarding the teacher evaluations by school inspectors and school leaders, evaluation continues to be seen as only a high-stakes accountability tool, rather than an opportunity for developmental growth (Santiago et al., 2016_[20]).

In addition to using teacher (and other staff) appraisals to proscribe professional development at the individual level, results from individual appraisals can be aggregated or whole-school evaluation results can replace them to generate topics for professional development. Understood as such, evaluation-informed professional development can explicitly recognise the ecological context in which educators work. Teachers improve most when they work in supportive environments of peers who seek to improve on similar dimensions (Johnson, Kraft and Papay, 2012_[78]). Thus, a collective focus to linking appraisal with professional learning holds promise.

In spite of the shortcomings of many appraisal systems, there is clear interest on the part of teachers in receiving high-quality feedback. In fact, for the TALIS 2013, 61% of lower secondary teachers reported improvements in public recognition, 63% in job satisfaction, 65% in job motivation, and 71% in confidence in teaching abilities after receiving feedback, on average across participating countries (OECD, 2014, p. 136_[42]). Thus,

ensuring that appraisal results in strategies for improvement alongside any accountability aims appears critical. Evaluation and appraisal represent an opportunity for continuing learning, can be promoted within the context of teams, requires important leadership skills, and insights gained from it should be systematically captured.

The successful implementation of staff evaluation systems has proved a barrier

Beyond challenges in the aims and design of evaluation systems, their successful implementation has proved a significant barrier. While successful implementation is frequently one of the largest barriers to any education reform effort (Viennet and Pont, 2017_[125]), the domain of appraisal has been particularly difficult as it combines resource, capacity, technical, political and cultural barriers.

Time and capacity constraints

School leaders experience intense demands on their time, often working well beyond standard professional working hours. In Portugal and the United States, for example, school leaders report working upwards of 60 hours per week (Liebowitz et al., 2018_[19]; National Center for Education Statistics, 2017_[126]). Despite the long hours of those generally responsible for evaluating teachers (though not in all systems), many teachers report dissatisfaction with the quality of their appraisals. Many OECD reviews found school leaders' time was taken up by administrative and managerial tasks (e.g. for Austria, the Czech Republic and Portugal) (Liebowitz et al., 2018_[19]; Nusche et al., 2016_[22]; Shewbridge et al., 2016_[96]).

Thus, simply demanding more of school leaders in terms of the time they devote to appraisal is unlikely to either generate positive results or improve school leader recruitment and retention in an already challenging role (see Chapter 2). Thus a critical consideration is to redistribute resources within schools and systems to shift responsibilities of evaluation and management to permit those responsible for evaluation to be able to do so effectively.

A separate, though related concern, are constraints related to the skills of teacher evaluators. In both the research literature and OECD reviews, teacher evaluators (largely school principals and other leaders) report having not only limited time to engage meaningfully in evaluation, but also needing additional training to successfully observe classroom practice and provide feedback (Santiago et al., 2016_[20]; Shewbridge et al., 2016_[96]).

Measurement constraints

Measurement challenges exist across the three primary sources of information typically used in appraisals: observations of practice, student outcomes and surveys.

Appraisal operates from the premise that if teacher and leader standards are clear and rigorous and evaluators are trained to observe and rate staff against those standards, evaluators will reach valid and reliable conclusions about teachers' and leaders' effectiveness. Setting aside the technical definitions of these terms, the "validity" assumption implies that evaluator ratings of an individual reveal meaningful information about their skill and effectiveness and the "reliability" assumption implies that multiple evaluators in multiple time periods would rate the staff member similarly. These two assumptions are critical for the appraisal effort to be of value (OECD, 2013_[112]).

However, reviews of evaluation procedures in the context of the United States found minimal efforts to assess the validity and reliability of teacher ratings (Herlihy et al., 2014_[127]). Kraft et al. (2019_[128]) document a reliability coefficient on overall teacher

performance appraisal of approximately 0.8. While this coefficient is relatively high, it nevertheless implies that 20% of teachers are rated in a different rank order from year to year. Measurement issues are even more of a challenge when policy makers seek to incorporate student performance measures as part of the appraisal process.

There has been substantial debate in the policy and research communities around the use of student performance on external assessments as part of teacher evaluation. There are numerous methodological challenges to the use of test scores in teacher evaluation. Most notably, these include that different models and tests produce different ratings for teachers, that the student composition of classrooms affects the results, and that there is potential for gaming the scores by teaching to the test (Rothstein, 2017^[129]; Ballou and Springer, 2015^[130]; Guarino, Reckase and Wooldridge, 2015^[131]; American Statistical Association, 2014^[132]; Koedel and Betts, 2011^[133]; Papay, 2011^[134]; Rothstein, 2010^[135]).

Furthermore, recent evidence indicates that teachers' impacts on test score outcomes do not correlate well with teachers' impact on other desirable outcomes such as student attendance (Gershenson, 2016^[136]) and non-cognitive skills such as resilience, growth mindset, self-efficacy and behaviour in class (Blazar and Kraft, 2017^[137]; Kraft, 2017^[138]). While others maintain that teacher value-added estimates provide unbiased, causal estimates of teachers' productivity that predict long-term labour market outcomes (Chetty, Friedman and Rockoff, 2017^[139]; Chetty, Friedman and Rockoff, 2014^[140]), this literature remains very much in controversy.

Finally, surveys of students, families, peers and other education stakeholders have become increasingly common parts of school leaders' and sometimes teachers' appraisals. In the large-scale Measures of Effective Teaching (MET) study, combining the experiences of 3 000 teachers in school districts across the United States, the strongest predictor of teacher contributions to student learning gains were student surveys (Kane and Staiger, 2012^[141]). In the aftermath of these findings, various private providers developed commercial surveys that purport to measure teacher or school leader quality. While these may have potential, caution must be used to avoid unintended consequences since these instruments may not reflect expert judgement on teacher or leader effectiveness but only individual preferences (Isoré, 2009^[142]), and may distort behaviour to earn higher ratings in the short term at the expense of longer-term educationally beneficial behaviours.

Cultural, normative and political constraints

Even in contexts where recent reforms to evaluation have been undertaken, the actual ratings assigned frequently continue to be plagued by a lack of differentiation across teachers. In the United States, despite cross-state teacher evaluation reforms that created multiple rating categories and frequently assigned components of teacher ratings to student test score outcomes and sometimes parent surveys, follow-up studies find that the overwhelming majority of teachers continue to receive positive appraisals (more than 95%) (Kraft and Gilmour, 2017^[119]). In fact, on average, the higher the stakes of the evaluation, the more common it was that ratings would be high (Grissom and Loeb, 2017^[143]). Similar policy developments are apparent in Chile where complex, purportedly rigorous evaluation was introduced, but most teachers continue to be rated positively (Santiago et al., 2017^[34]).

While Pope (2019^[144]) finds that the mere act of publically labelling teachers based on their effectiveness at improving student outcomes led to the improvement of low-performing teachers, it remains an open question as to whether the act of labelling teachers as high- or low-performing would be beneficial. What cross-national patterns of high appraisal-rating scores may reveal is the struggle that many evaluators experience in providing challenging,

constructive feedback to teachers and other staff. Some have pointed to the cultural and normative conditions in schools that promote a flat organisational structure and avoid creating between-teacher competition as potential sources of this constraint.

In addition to within-school normative presses against rating teachers poorly, teachers' professional associations have often raised objections to what they have described as capricious and poorly designed appraisal systems (Figazzolo, 2013^[145]). The professional associations' concerns tend to accord with those outlined above, with the additional concern that teachers are rarely included as key decision makers in the design of appraisal policies. A concern frequently raised by professional associations is that the use of a high-stakes evaluation system which might result in the dismissal of teachers is highly problematic when the appraisal system is unable to reliably distinguish between higher- and lower-performing teachers. As a result, substantial political controversy has followed in most systems that have attempted to implement high-stakes evaluations.

While there exist capacity, technical and political constraints to the development of higher-stakes appraisal systems, for the TALIS 2013, 44% of lower secondary teachers reported that they worked in schools in which poor appraisals never led to "dismissal or non-renewal of contract" (OECD, 2014^[42]). Thus, while concerns about high-stakes appraisal systems have led to political mobilisation against them, a solution to solve the challenge of weak or middling teaching remains outstanding.

4.3. Developing leadership for inquiry, dialogue and learning

4.3.1. School principals are faced with a wide variety of professional responsibilities, but there are shortcomings in preparing them for their role

Research increasingly recognises the positive effect that well-prepared school leaders can have on their students' learning outcomes (Gates et al., 2019^[146]; Clark, Martorell and Rockoff, 2009^[55]). Based on this is a growing awareness that a successful teaching record alone is not sufficient and that school leadership is a specialist occupation that requires rigorous preparation and entry requirements. As school leaders are predominantly recruited from the teaching profession, many of the organisational competencies at the heart of their role are not covered during initial teacher preparation.

Thus, there is value in investing in school leader development strategies, even if there is likely no programme that could fully prepare prospective school leaders for the position, given the wide range of knowledge and skills required of school leaders (see Annex 1.A in Chapter 1). Indeed, for the TALIS 2018, principals of lower secondary schools reported a wide range of development needs, which likely reflect that they need to be proficient in multiple roles, from financial management to pedagogical leadership (see Figure 4.9) (OECD, 2019, pp. 168, Table I.5.32^[4]).

Figure 4.9. Principals' needs for professional development (ISCED 2), 2018

Percentage of principals reporting a high level of need for professional development in the following areas
(OECD average-30)



Notes: Values are ranked in descending order of the percentage of principals who reported a high level of need for professional development in the above topics. The number of countries or economies included in the OECD average is indicated next to that average. On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported in this figure, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

Source: OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, OECD Publishing, Paris, <https://doi.org/10.1787/1d0bc92a-en>, Table I.5.32.

StatLink  <https://doi.org/10.1787/888934026734>

A number of countries, however, do not require school leaders to exhibit or acquire qualifications that distinguish them from teachers. In fact, some have moved in the opposite direction and relaxed entry requirements for school leaders, sometimes motivated by a difficulty to recruit sufficient number of candidates to the profession. In England (United Kingdom), since 2013, aspiring school leaders no longer need to acquire the National Professional Qualification for Headship (NPQH) or hold Qualified Teachers Status, which had previously been compulsory.

Among OECD review countries, initial preparation requirements vary substantially for school principals as Table 4.7 documents. Some systems have no fixed requirements for preparation beyond a teaching qualification (e.g. Denmark, Kazakhstan, Lithuania and Turkey); others have no preparation requirements to enter the principal position, but require training within a fixed amount of time once appointed to remain in the position (e.g. the Czech Republic, Slovenia and Sweden); others require minor trainings prior to beginning the role (e.g. Uruguay); and still others have extensive pre-service preparation requirements (e.g. Chile and Spain).

Table 4.7. School principal preparation requirements (ISCED 1-3), 2018

OECD review countries, public schools

Pre-appointment																		
Post-appointment																		
Country	Austria	Belgium (Fl.)	Belgium (Fr.)	Chile	Colombia	Czech Republic	Denmark	Estonia	Iceland	Kazakhstan	Lithuania	Portugal	Slovak Republic	Slovenia	Spain	Sweden	Turkey	Uruguay

Note: For full comparative tables on school leader preparation and development, see Table A.6. in Annex A.
Sources: Based on Country Background Reports and Country Review Reports (<http://www.oecd.org/education/school-resources-review/schoolresourcesreview-reportsforparticipatingcountries.htm>).

Austria and the Slovak Republic provide interesting examples with school principals being required to take part of their training prior to appointment, and to continue preparation during their first years on the job. The French Community of Belgium has developed another interesting approach, with aspiring school principals having to undertake training and an entry phase which lead to appointment in the case of positive evaluations. Box 4.10 provides more in-depth descriptions of approaches to school principal preparation in select OECD review countries.

Box 4.10. Approaches to school principal preparation in OECD review countries

Austria

Austria has recently moved to an approach where aspiring school principals are required to undergo part of their training programme (20 ECTS) prior to their recruitment rather than – as was previously the case – during their first four years in service. Once appointed, school principals complete a second part of the leadership development course (40 ECTS) within four years and six months of their time at school.

Source: Eurydice (2019), Database of National Education Systems, https://eacea.ec.europa.eu/national-policies/eurydice/national-description_en (accessed 15 June 2019).

French Community of Belgium

Since 2007, school principals have been required to complete training and a mandatory entry phase (*stage*) for appointment. Since September 2019, the duration of training has increased from 120 hours to 180 hours, while the entry phase has increased from two to three years as part of the French Community’s Pact for Excellence in Teaching (*Pacte pour un enseignement d’excellence*). Following successful evaluations during the entry phase, the candidate is appointed to principalship.

Training covers pedagogical, educational, administrative, financial and relational aspects and should provide principals with a portfolio of knowledge and skills. Since education in the French Community is organised in educational networks (public, government-aided public and government-aided private), half of the training is organised jointly for all networks, the other half for each specific network. Since September 2019, the inter-network part comprises two axes: administration and steering (itself composed of a module on “educational vision and management” and a module on “the development of

relational, interpersonal and group skills and aptitudes and the construction of professional identity”).

The network-specific part addresses issues specific to the network, in terms of its educational and pedagogical or educational and artistic project, its specific legal and administrative provisions as well as material and financial management. The network-specific part moreover includes time for coaching and induction (30 hours) to support the principal in different areas: for example, teamwork, time management, priority setting or the application of laws and regulations. Coaching and induction are provided by trainers without any hierarchical relationship during the three-year entry phase; may include exchanges with other school principals and a self-assessment to highlight strengths and areas for improvement.

Sources: Ministère de la Fédération Wallonie-Bruxelles (2016), *Examen de l’OCDE des politiques pour un usage plus efficace des ressources scolaires RAPPORT PAYS Communauté française de Belgique*; Ministère de la Fédération Wallonie-Bruxelles, Bruxelles, <http://www.oecd.org/education/school-resources-review/reports-for-participating-countries-country-background-reports.htm>; Parlement de la Fédération Wallonie-Bruxelles (2019), *Décret du 14-03-2019 modifiant diverses dispositions relatives aux fonctions de directeur et directrice, aux autres fonctions de promotion et aux fonctions de sélection*, https://www.gallilex.cfwb.be/document/pdf/46328_001.pdf (accessed 25 July 2019).

Slovak Republic

School principals are required to complete “functional training”, which is an officially approved professional development course in specific management competencies. Functional training courses are offered by the central Methodology and Pedagogy Centre (*Metodicko-pedagogické centrum*, MPC), universities and other providers. The basic training modules need to be completed prior to appointment; the extended modules within five years of appointment. The full functional training (basic and extended modules) comprises 320 hours of training. It covers a range of issues, from school legislation and finance, pedagogical management (preparing the school education programme and working with the curriculum) and human resource management (the school as the employer), to conceptual management (responsibility for the school development plan and strategic issues).

Source: Santiago et al. (2016), *OECD Reviews of School Resources: Slovak Republic 2015*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264247567-en>.

Spain

Before they are appointed as school principals, candidates have to pass a training course on the development of leadership of a duration of 120 hours. Training, which is organised by the state and central education authorities, includes a theoretical and a practical part. It has a modular structure of a varying length, according to the content, and covers at a minimum the following areas: i) regulatory framework for educational institutions, ii) organisation and management of educational institutions, iii) management of school resources, iv) key factors for effective leadership, v) accountability and educational quality and vi) management project.

Source: Eurydice (2019), *Database of National Education Systems*, https://eacea.ec.europa.eu/national-policies/eurydice/national-description_en (accessed 15 June 2019).

Successful school leadership development fosters both instructional and managerial skills. As for teachers, residency models hold promise for the effective preparation of school leaders for their role. One highly regarded model is the New Leaders residency programme for school leaders in the United States. In one of the few well-designed credible estimates of the impact of school leadership preparation programmes, school leaders trained by the New Leaders residency preparation programme improved student learning outcomes in their schools compared to non-residency trained leaders, though the magnitude of these improved test score outcomes was relatively small (Gates et al., 2014).

Another model is the School Leader Offspring Programme in Estonia, a 24-month development programme for future school leaders, open to school staff, plus individuals from other sectors. Participants are selected via a competition. Each participant has a mentor and performs field training in schools. The programme offers different modules, including an introduction to pedagogy and the management of learning for those not in the education sector (Estonian Ministry of Education and Research, 2015^[147]).

In addition to such leadership residencies, clearer consistent expectations for initial preparation (and the school leadership role) that combine instructional, management and operational skill development are critical.

4.3.2. More knowledge about preparation and support for middle leadership roles and teacher leaders is required

In addition to traditional preparation programmes geared towards a leadership role with supervisory responsibility for all others in a school organisational hierarchy (e.g. head teacher, principal, headmaster), some school systems have focussed on preparing candidates for intermediary leadership roles such as department heads or curriculum leaders. A key consideration is how to provide diverse developmental opportunities relevant to the varied intermediary leadership roles in a resource-constrained environment. A recent review of best practices in these areas finds that critical strategies are to empower middle leaders to own their roles and be subject-matter and pedagogical experts within their schools, and to provide them with support to build knowledge and skills (Hammersley-Fletcher, Ainsworth and Davies, 2018^[148]).

In general, minimal evidence from either the research literature or the OECD review provides guidance on the best ways to develop such leaders, independent from general strategies for school leadership (Wenner and Campbell, 2016^[149]). This is an important area of future research and policy development. Nevertheless, comparative information for OECD review countries illustrates that a number of systems have requirements or opportunities for the development of leadership more broadly (see Table 4.8 and Table A.6. in Annex A).

In the Flemish Community of Belgium and the Slovak Republic, training is required for specific leadership roles other than the principal. In Slovenia, the National School of Leadership in Education provides professional development also for other leadership roles, notably a training programme for middle leadership intended for subject and group leaders, and a leadership support programme developed for staff to encourage learning communities and develop knowledge and skills in some areas of their work.

Table 4.8. Development requirements and opportunities for intermediary formal school leadership roles (ISCED 1-3), 2018

OECD review countries, public schools

Requirements																	
Opportunities																	
Country	Austria	Belgium (Fl.)	Belgium (Fr.)	Chile	Colombia	Czech Republic	Denmark	Estonia	Kazakhstan	Lithuania	Portugal	Slovak Republic	Slovenia	Spain	Sweden	Turkey	Uruguay

Notes: For full comparative tables on school leader preparation and development, see Table A.6. in Annex A. Shaded boxes indicate where requirements and opportunities are in place for some formal school leadership positions. This may not be relevant for all types of other formal leadership positions besides the school principal in a school system.

Source: Based on Country Background Reports and Country Review Reports (<http://www.oecd.org/education/school-resources-review/schoolresourcesreview-reportsforparticipatingcountries.htm>).

In Austria, aspiring school leaders can take the first part of the leadership development programme for principals (20 ECTS), while aspiring administrators can participate in a development programme (10 ECTS) offered by university colleges. The creation of a new teacher leader role (*Lerndesigner*) in schools was accompanied with the development of a new qualification programme to provide theoretical and practical insights in areas of expertise related to instructional quality, to develop the knowledge and skills to be effective teacher leaders and to help staff network with one another (Nusche et al., 2016_[22]).

One specific model that involves intermediary leader preparation was developed in Estonia. Since 2015, the School Team Development programme, a 12-month management training programme with the school leader and two other staff members, covers different school management topics. This serves as both a professional learning opportunity for school leaders as well as future leadership development for these middle leaders (Estonian Ministry of Education and Research, 2015_[147]).

Box 4.11 highlights programmes that Singapore uses to develop early career leaders (Management and Leadership Studies Programme) and promising mid-career leaders (Leaders in Education Programme). Critically, Singapore conceives of the progression of teachers interested in leadership as one requiring a sequential progression in which key skills must be acquired at benchmark points during their career development.

Scotland (United Kingdom) provides another example for leadership development on a continuum throughout teachers' and leaders' careers. In response to Teaching Scotland's Future, a review of the state of teacher education, in the early 2010s, Scotland established a College for Educational Leadership to support the leadership professional learning of all educators, from teachers to middle leaders, headteachers and system leaders (Scottish College for Educational Leadership, 2019_[150]).

Box 4.11. Preparing leaders in Singapore

The Management and Leadership Studies (MLS) Programme

This programme is designed for teacher leaders who are department, grade or subject group heads. It comprises 17 weeks of funded training, during which time staff receive their full salary. During this training, teacher leaders participate in a series of courses to develop leadership, teaming and operational management skills. They also spend a week travelling to another Asian Pacific country to provide them with new perspectives on the Singaporean context (Keo, 2016_[151]). From this programme, candidates become competitive for the positions of assistant principal or may move to the National Institute for Education (NIE), the country's national teacher education institute, or the national Ministry of Education.

The Leaders in Education Program (LEP)

This is a highly selective programme that prepares highly effective assistant principals and ministry officials for principalship. The programme was launched in 2001 by the National Institute for Education (NIE). Between 30 and 40 candidates are selected in each cohort for an intensive six-month executive education programme based on their prior performance appraisals, situational tests, a professional portfolio and selection interviews. Once selected, participants receive a full salary, while participating full-time in the programme. The programme aims to develop capacity that is, “values-based, purposeful, and forward looking, anchored on both strong people leadership and instructional leadership” (Jayapragas, 2016_[152]). The curriculum draws on leaders in adult learning to develop five skill sets: i) the disciplined mind, ii) the synthesising mind, iii) the creating mind, iv) the respectful mind and v) the ethical mind (Walker, Bryant and Lee, 2013_[153]).

Every cohort member is placed in a local school in Singapore where they are mentored by an experienced principal. In the school, they conduct a Creative Action Project to design an innovation alongside the school's faculty with the goal of transforming the school over the long term. Participants also take part in a two-week international study trip in order to gain comparative perspectives on school leadership.

The initiative has had positive participant feedback, but to date no formal evaluation exists assessing its impact on leaders' future skills or on student learning outcomes.

4.3.3. School principals and other leaders often lack sufficient ongoing support and relevant development opportunities throughout their career

While the early career growth trajectories in the effectiveness of teachers is well-documented (Papay and Kraft, 2015_[54]; Boyd et al., 2008_[154]; Rivkin, Hanushek and Kain, 2005_[155]; Rockoff, 2004_[10]), much less is known about the development trajectories of principals. While consistent evidence indicates a correlation between experience as a school leader and student outcomes (Grissom, Blissett and Mitani, 2018_[156]; Bastian and Henry, 2015_[157]; Clark et al., 2017_[46]), this evidence struggles to disentangle the effects of school leader learning on the job and more effective leaders remaining in their positions for longer periods.

Thus, while it is fairly evident that school leaders are likely to benefit from experience in their position, relatively little is known about how to influence their growth trajectories such that they improve more rapidly and throughout the course of their professional careers.

One key strategy to affect the development trajectories of school leaders is through continuing opportunities for professional learning. Fryer (2017_[158]) examined the impact of school principal training on teacher productivity over two years in a randomised controlled trial, showing that management training can be a very cost-effective way to improve student outcomes across many subjects as training helps increase teacher productivity across the school.

OECD review countries provide a range of professional learning opportunities for their school principals (see Table A.9. in Annex A). Many of these supports for learning as school leaders are valuable, in principle. There is a range of providers in OECD review countries, such as tertiary education institutions, teacher education institutions, or dedicated leadership institutions (such as in Chile and Slovenia) that offer ongoing school management or instructional leadership courses. In the Czech Republic, a project was ongoing at the time of writing to set up a permanent conference of school principals, which was planned to act as a managing body to ensure an up-to-date and systematic support system for school management and leadership development.

In Chile, the Slovak Republic and Spain, professional learning activities for school leaders are incorporated as required elements for all school leaders' regular work in a way that can be guided at the systemic level. In these systems, all leaders are mandatorily engaged in either a learning network or series of ongoing professional learning courses. In several systems, there are also explicit resources in the form of guaranteed time or money devoted to the ongoing development for school leaders.

In some countries, professional organisations or civil society play an important role in leadership development. To give an example, in Slovenia, the professional association of school leaders provides additional learning opportunities (e.g. offering a network for peer learning) to those provided by the country's leadership institute (Slovenian Ministry of Education, Science and Sport, 2017_[72]). Similarly, in Denmark, the professional association of school leaders supports their members with a range of training activities (Nusche et al., 2016_[30]), while in the French Community of Belgium and Portugal school leader associations facilitate exchange and support among their members (Liebowitz et al., 2018_[19]; Ministère de la Fédération Wallonie-Bruxelles, 2016_[70]).

In Colombia, a cohort of school leaders has been exposed to experts and academics from across multiple sectors who provide managerial and educational training through the Transformative School Principals programme (*Rectores Líderes Transformadores*, RLT) (Radinger et al., 2018_[16]). Under leadership of the Business Leaders Foundation for Education (*Fundación Empresarios por la Educación*), the programme has strong links with the regions and is aligned with central policies as well as local education strategies through a working agreement. The programme not only involves the school principal, but all members of the school leadership team who participate in training in different ways.

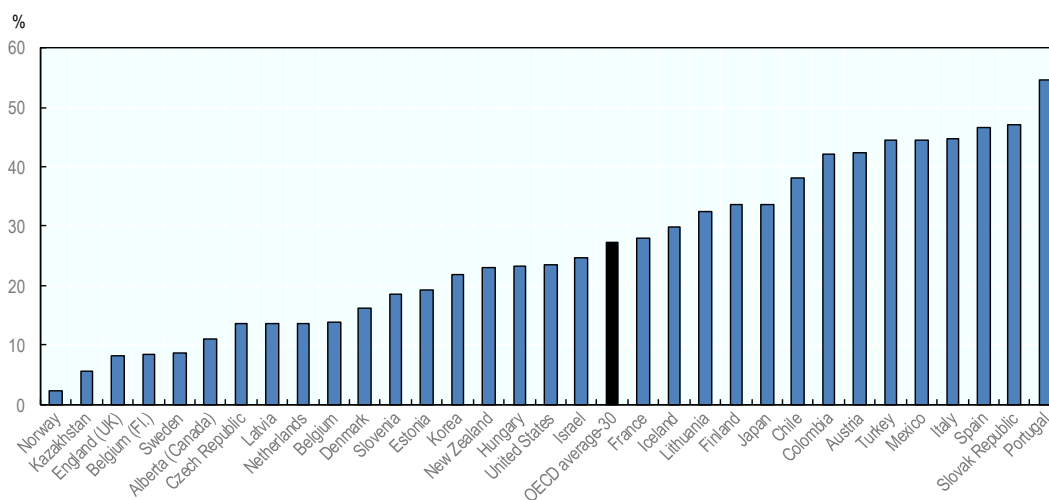
The development programme comprises elements of intensive training (four weeks classroom training) and continuous elements (36 weeks of support in the educational institution), and is built on a number of formats, including coaching strategies (individually, through shadowing, and in groups). After ten months of training, the school principal and his or her school prepare a plan and concrete actions to transform the school which is then implemented over two years (UNESCO, 2014_[159]). An evaluation of the programme has shown a positive impact on learning outcomes and drop-out rates, but also the challenge of maintaining results in the medium term (Escallón et al., 2018_[160]).

While most systems then offer various opportunities from which school leaders might benefit – as is also evident from principals’ reported participation in professional development for the TALIS 2018 (OECD, 2019, p. 153_[4]) – few provide large-scale development systems for all school leaders that are aligned with strategic priorities. The broader literature on school leader professional development suggests that there is little value derived from it, despite its apparent potential in developing principal capacity and retaining them in their positions (Pont, 2014_[161]). The lack of a relevant offer was a commonly cited barrier for participation in professional development among school principals for the TALIS 2018 (27% on average across participating OECD countries). As Figure 4.10 shows, the extent of this, however, differs widely across countries, from less than 10% in the Flemish Community of Belgium, England (United Kingdom), Kazakhstan, Norway and Sweden, to more than 45% in Italy, Portugal, the Slovak Republic and Spain (OECD, 2019, pp. 208, Table I.5.40_[4]).

Some OECD reviews witnessed reports of limited value in school leadership development courses. For instance, in Portugal, school leaders have access to a series of industry-supported leadership courses as well as ongoing educational management courses at institutions of higher education. However, leaders of school principals’ associations commented that the most effective trainings benefited only a small cohort of school leaders, and that school leaders often had difficulty finding time in their schedules to attend or did not perceive value in the courses offerings (Liebowitz et al., 2018_[19]).

Figure 4.10. Relevance of professional development on offer (ISCED 2), 2018

Percentage of principals who “agreed” or “strongly agreed” that the lack of a relevant offer presents a barrier to their participation in professional development



Notes: Countries and economies are ranked in ascending order in the percentage of principals who agreed or strongly agreed that the lack of a relevant offer presents a barrier to their participation in professional development. The number of countries or economies included in the OECD average is indicated next to that average. On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported in this figure, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia’s instrument of accession to the OECD Convention was pending.

Source: OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, OECD Publishing, Paris, <https://doi.org/10.1787/1d0bc92a-en>, Table I.5.40.

StatLink  <https://doi.org/10.1787/888934026753>

Where courses and networks align with a set of educational priorities, of course trade-offs exist between ensuring alignment with national or sub-national improvement areas and the value of crafting a professional learning plan most relevant to the particular school leader. The Chilean School Improvement Networks (*Redes de Mejoramiento Escolar*) promote this sort of learning by permitting networks to define learning priorities most relevant to them, while still focussing on system goals (Santiago et al., 2017_[34]).

Education authorities, such as municipalities, have an important role to play in supporting the development of their school leaders (Lavy and Boiko, 2017_[162]; Honig, 2012_[163]). Administrators may, however, face difficulties, such as capacity challenges, to provide support in a range of areas, including instructional improvement. In the Czech Republic, for example, school founders typically focus on support in budgetary and administrative issues, leaving pedagogical advice to the school inspection (Shewbridge et al., 2016_[96]).

Performance management and evaluation often constitutes an important element of education authorities' work with school leaders as Table 4.9 demonstrates (also see Table A.6. in Annex A). While appraisal systems for teachers are relatively infrequent and generally low stakes, the appraisal process for school leaders, while varied, is more consistently frequent and high stakes. However, school principals rarely benefit from formative feedback or receive professional development linked to their appraisal results (Radinger, 2014_[164]; OECD, 2013_[112]).

Table 4.9. School leader evaluation (ISCED 1-3), 2018

OECD review countries, public schools

	OECD review countries, public schools																		
	Ind. appraisal	Mandatory																	
	Discretionary																		
External school evaluation																			
Country																			
Austria																			
Belgium (Fl.)																			
Belgium (Fr.)																			
Chile																			
Colombia (1)																			
Czech Republic																			
Denmark																			
Estonia																			
Iceland																			
Kazakhstan																			
Lithuania																			
Portugal																			
Slovak Republic																			
Slovenia																			
Spain (2)																			
Sweden																			
Turkey																			
Uruguay																			

Note: For full comparative tables on school leader professional learning, see Table A.6. in Annex A.

1. Colombia: Principals of the new teacher statute (1278 of 2002) are evaluated on an annual basis; principals of the old teacher statute (2277 of 1979) are not evaluated.

2. Spain: School evaluations are carried out at discretion of state education authorities.

Source: Based on Country Background Reports and Country Review Reports (<http://www.oecd.org/education/school-resources-review/schoolresourcesreview-reportsforparticipatingcountries.htm>).

In this respect, Estonia has recently developed and promoted an innovative 360 degree feedback model which school owners may use to evaluate their principals. The school principal completes a self-assessment about their competencies, while those working with him/her also complete an evaluation of the principal's work. This provides feedback from multiple sources and a basis to compare the self-assessment with the assessment of others, which can serve as input to an individual development plan.

In addition, school leaders are often evaluated as part of an external school evaluation and supervision process (also see Table 4.9). On one level, linking the whole-school evaluation to the individual evaluation of the school leader logically connects the performance appraisal of the school leader with the overall success of the school. On the other hand,

such an approach risks conflating external factors such as levels of student disadvantage, poor prior culture and systems with the efforts and skills of the current school leader. In fact, credible evidence indicates that from a purely quantitative perspective, school leaders' effects on student test score outcomes are distinct from contemporaneous school effects on student outcomes (Chiang, Lipscomb and Gill, 2016^[165]).

4.4. Policy options

4.4.1. Initial preparation

Designing preparation requirements to ensure candidates have extensive opportunities for situated learning in primary and/or secondary school settings

Learning about teaching and leading requires a complex blend of theoretical and applied knowledge. Successful teachers have deep subject-matter knowledge, an understanding of child development and psychology, an awareness of the principles of the learning sciences, and a set of practiced routines for operationalising these in the context of a classroom. To be able to practice applying these skills with children, prospective teachers must have the opportunity to practice in schools. The analogous condition holds for school leaders (and potentially other types of staff and professionals in schools). School leadership requires knowledge of legal and financial requirements, an understanding of management, a deep knowledge of pedagogical and instructional techniques, and the ability to bring these to life amidst the hectic schedule of a school operational manager. Thus, preparation requirements should provide ample opportunities for teachers and leaders to learn in primary and secondary school settings.

Curriculum development for preparation programmes should receive guidance from a broad set of stakeholders including academic experts in higher education institutions, practitioners working in schools, and professional associations.

Teacher education providers should consider partnering with local school networks to identify the particular challenges specific to their communities that early career teachers face and then design curriculum in response. Following guidance from OECD (2019^[3]), ensuring that practicing teachers who serve as co-operating or supervising mentors have a say in the design of curriculum will be critical to both tailor learning for prospective teachers and provide leadership and growth opportunities for expert practitioners.

From a resource perspective, shifting credits away from classroom settings in teacher education institutions to practicum or internship experiences will require some re-adjustments. Teacher education institution may find that they will need to prioritise hiring more practitioner instructors rather than academic researchers.

Investing in teacher and school leader residency programmes

While the majority of prospective teachers and school leaders will continue to receive their training through traditional initial preparation programmes, systems may find value in investing in experimental residency programmes both for the benefit of teachers and leaders who participate in the residencies as well as for the potential of system-wide learning.

School systems might pilot a master's-level training programme (ISCED 7) that prioritises the development of applied pedagogical skills in an intensive teaching residency. Models of teacher residency exist in OECD countries developed based on the medical residency system (see Box 4.3 for examples from the United States). Candidates could be screened

for academic skill at bachelor's level (ISCED 6) and then placed for a one-year residency in a local school. In line with the previous recommendation to encourage more in-school learning during preparation, residency programmes invert the learning model so that the overwhelming majority of candidate teacher and leaders' time is spent in a school. Prospective teachers could spend four days per week in the classroom with a highly effective experienced teacher, progressively taking more responsibility for leading the classroom. The fifth week day could be spent learning with the cohort of residents at a local teacher education institution.

The effective development of this pilot would depend on the quality of the partnership, the skill of the host classroom teachers and the design of the residency pilot in such a way to evaluate its effectiveness. In order for the residency to provide the appropriate mix of skills, the co-operating department would need to agree to design the programme curriculum to align with the goals of the project. Specifically, the coursework should efficiently introduce key theory around learning sciences, while primarily supporting teaching candidates in building skills in response to the realities they face in their classrooms. This may mean participating in non-traditional learning pedagogies.

A second key determinant of the success of residencies will be the quality of the co-operating teachers in which the residents are placed. Working with school leadership, residency programme leaders should work to identify high-capacity experienced teachers to serve as host classrooms for teaching candidates. Instructional as well as adult coaching skills are important in these roles. Finally, if the pilot is to provide valuable lessons for the broader development of teacher education, formal evaluation structures should be in place. The design of such a pilot should consider the most appropriate actor to manage the pilot.

Mandating or strongly incentivising induction programmes for new or new-to-school teachers and leaders

Formal induction and coaching supports for new teachers that focus on providing direct feedback on practice could have significant positive impacts on teachers' growth trajectories. Such a priority will require strategic resource allocations as coaching positions require dedicated time out of teachers' schedules – either a full- or part-time allocation of teaching hours is required. As discussed previously, this form of individualised support is more intensive than traditional mentoring. School systems will need to find efficiencies or trade-offs with other resources, such as class size, to invest in this resource.

Creating formalised roles for early career coaches with rigorous selection processes and supporting curricula geared to adult learners

If mentoring or coaching relationships are to be effective, the individuals in these positions must be of high capacity. Mentors and coaches should go through a rigorous selection process that requires demonstration of prior instructional effectiveness, demonstration of observation and feedback skills, and an awareness of adult learning principles. Selection might happen either through a system-wide contest or through school-site hiring processes, which would largely depend on the level of centralised governance within that country's context. Importantly, however, mentors and coaches should be selected with an eye towards the alignment of their skills to particular areas of need. The needs of early career teachers vary across impoverished rural settings, high-needs recent immigrant communities or socio-economically advantaged urban areas. Thus, the instructional and mentoring skill sets to accompany early career staff will vary too.

Once in their roles, mentors and coaches should receive regular professional learning opportunities to grow their capacity to support early career staff. Dedicated time should be devoted in their schedules to sharing challenges and providing counsel to others in similar positions. They should also regularly receive feedback on their coaching practices from expert coaches.

In addition to the creation of the positions, the time and staff resources involved in selection and continuing development will also create resource demands that should be estimated and accounted for in budgeting processes.

4.4.2. Continuing professional learning

Creating supports for schools to develop coherent learning goals and designing embedded learning opportunities directed towards these goals

As OECD (2013_[112]) notes, many school systems expect some or all schools to create yearly or multi-year strategies to improve learning outcomes for students. A less common feature of these requirements is to pair goal setting with supports to permit staff within the school to gain the skills and knowledge to achieve these goals. As Elmore's (2004_[121]) principle of reciprocity suggests: "for every unit of performance I demand of you, I have a reciprocal responsibility to provide you with a unit of capacity".

Thus, policy makers could couple school-level goal setting with the design of embedded learning opportunities that help teachers and school leaders achieve these goals. Depending on the context and the nature of the needed capacity, this might take the form of time in the schedule for teachers to meet, ongoing professional development courses, support networks of schools sharing similar learning goals, electronic teaching libraries, or other tools to support adult learning. The critical aspect is that the ongoing learning experience be aligned to the school (and potentially system) goals. This ensures that colleagues can work together on their improvement.

Supporting schools to contextualise adult learning goals to the specific community they serve

Related to the importance of connecting supports to goals, schools must develop adult learning goals that respond to the needs of their school community. Emerging examples of preparation programmes exist that tailor preparation to the cultural and demographic context in which teachers will work. Though these programmes exist only in some countries and even there are still in their infancy, evidence strongly supports the value of teachers who can serve as positive cultural models (Papageorge, Gershenson and Kang, 2019_[166]; Holt and Gershenson, 2017_[167]). Similar principles apply to continuing professional learning.

Schools (or networks of schools) should receive support to create goals that match the particular needs of their community and students. Once these goals are established, the learning opportunities provided to teacher and school leaders should reflect these needs. Culturally specific content is only one dimension for specialisation. In some contexts, strategies for connecting academic subject matter to vocational education and training (VET) courses might be particularly valuable. While in some schools, an attention to how to teach procedural mathematics skills might address a staff or student skill gap, in others providing teachers support for guiding students to explain their mathematical thinking may

be most relevant. In some systems it may be helpful to create a database of supports that the relevant system can provide to schools which indicate a particular type of need.

Identifying opportunities to create and support school-based learning teams

While many schools and systems have traditions of staff meetings (e.g. departmental meetings, grade-level meetings, etc.), these are distinct in nature from learning teams. While schools and their teachers benefit from the traditional work of department meetings (e.g. agreement on the dates of major assessments of student work, discussion of particular student needs or alignment of tasks to learning standards), these types of activities tend to change teaching practice minimally.

The work of a learning team requires minimally i) regular, dedicated time in working schedules, ii) leadership roles, including for practicing teachers, responsible for helping to guide the work of the team, iii) supports in the form of protocols or defined processes to ensure work remains focussed on instructional and organisational improvement and iv) a school culture that tolerates and encourages peer-to-peer feedback and constructive feedback and exhortation from colleagues to attempt different instructional strategies.

Such opportunities, particularly defining time in working schedules, represent significant resource investments. While resource-constrained systems may find it tempting to seek to minimise these expenditures by focussing only on the schedule time, this may ultimately lead to the inefficient reality of increased costs with minimal improvements. Policy makers interested in the potential benefits of school-based learning teams should budget for the relatively smaller supports for team leader capacity development and resources to support teams' work.

Investing in high-quality, individualised coaching for teachers and school leaders

The benefits of coaching for early career teachers and school leaders noted above are equally present for teachers and school leaders throughout the career trajectory.

School systems which have no tradition of teacher coaching might begin by recruiting coaching staff to support, perhaps, only early career and struggling teachers. Once awareness of these programmes become more widespread, interest in serving in these roles (and willingness to receive support) may grow. School systems that already have pockets of instructional coach (or similar) roles, might consider the use of technology (e.g. video-based and/or earpiece-facilitated coaching) to allow current coaches to have a wider reach.

Ultimately, any system considering bringing coaching to all teachers will face two budgetary options. The first option would be to invest significantly in dedicated coaching positions, including in efforts to recruit coaches and provide ongoing support for coaches to ensure their coaching remains of high quality. The second option is to integrate coaching responsibilities into the duties of existing classroom teachers who would continue to have teaching as their primary responsibility. They might receive either small periods of non-instructional time or an additional stipend to provide feedback to their colleagues. The second option has the benefit of being less costly and coaches in these roles will have both current teaching experience and credibility. The evident drawback is that their attention will be spread thin and the quality of their coaching may suffer as a result.

Investing in digital progress monitoring tools to permit schools to capture teaching and learning strategies that work, and those that do not

In order to ensure that local knowledge about effective practices persists, school systems might support the development or acquisition of electronic tools to help retain this knowledge. OECD (2017_[168]) notes that evidence-based research only partially permeates teachers' practice. Alongside strong research-practitioner partnerships, it is critical to ensure that teachers and school leaders have tools to document and sustain practices that are effective in their contexts. If an instructional strategy that a learning team of teachers is piloting leads to higher levels of learning for their students, they should have ways to codify the components of this strategy so that it will retain its effectiveness and be able to communicate its success to others.

Similarly, if a school leader identifies an effective strategy for coaching a teacher with weak classroom management skills, they should have opportunities to share this with other school leaders, test whether it is effective in other contexts and share details of the practice. Just as importantly, if a team of teachers working towards a given school-wide goal finds a particular instructional practice to be ineffective, this should also be documented to avoid similar mistakes.

One such tool might be a digital progress monitoring tool. As part of each learning team's improvement strategies, yearly or multi-year goals would have associated activities that members of the team would take to accomplish these goals. Teams would then regularly update the results of the activities undertaken. The effectiveness of the results could be evaluated against a variety of qualitative and quantitative standards. Details of the implementation of activities with positive results would be preserved for the members of the team. Staff in other contexts could then attempt similar activities and test for their effectiveness. Results could be collected via digital platforms and repositories of emerging successful practices could be generated (OECD, 2015_[115]). As certain activities demonstrate promise, they could be the subjects of more formal impact evaluations. The results of these could then serve to strengthen research-practice partnerships.

4.4.3. Evaluation and appraisal

Investing in resources to train evaluators and distributing responsibilities

Evaluators of both teachers and school leaders should go through calibration exercises in which they receive training on observing successful completion of staff activities defined in national or sub-national teacher and leader standards, and then must successfully observe and rate staff performance on rubrics aligned to these professional standards. Evaluators should periodically participate in calibration exercises to ensure that their ratings remain in line with defined standards. Evaluators unable to meet expectations regarding alignment to standards might receive additional support, but ultimately not be eligible to serve as an evaluator until they reach benchmarking standards. However, calibration in the theoretical ability to accurately appraise a staff member means little if the evaluator does not have the time to provide meaningful feedback or conduct sufficient observations to collect meaningful information about instructional or leadership practice.

Using the appraisal process to reflect meaningful differences in skill and effectiveness of teachers and school leaders

The appraisal process should be used to differentiate levels of skill and effectiveness, not primarily as a method of ranking, incentivising or rewarding particular staff, but as a way to prioritise supports. If all teachers and leaders are appraised as uniformly proficient in all domains of their jobs, it is impossible to connect the appraisal process to professional learning, coaching or any other resources to help staff improve.

Appraisal systems should include rigorous, qualitative feedback on staff performance across multiple dimensions of responsibilities (e.g. lesson and unit planning, instructional practices, and assessment practices). Feedback might reflect both observed practice in these areas as well as student outcomes (for teachers) and teacher and school outcomes (for school leaders). Such an appraisal system would then permit evaluators to prioritise areas for support both within and across staff. Some struggling teachers and school leaders might receive extra coaching support across multiple domains; others might receive less overall support, but when they do receive such support it would be clearly targeted to a particular domain. Depending on the extent to which systems rely exclusively on qualitative feedback, the prioritisation of supports might depend on close review by school leaders or education administrators to determine which staff would benefit the most from the highest level of resource allocation.

Given the cultural and normative barriers documented earlier in this chapter, there will be likely forces that encourage most appraisals to avoid constructive, critical feedback. Some approaches for ensuring appraisals that reflect the true needs of teachers might be “normative-” (i.e. mandating a range of appraisal ratings for each evaluator) or “criterion-referenced” (i.e. ensuring that evaluators are fully calibrated and preventing those who are not from evaluating). Others could involve testing the external validity of an evaluator’s ratings against student outcomes or stakeholder surveys. While normative-referenced ratings might ensure that educators receive clearer indications of their areas for growth, they risk introducing inappropriate competition into the school context. Criterion-referenced ratings might avoid this challenge. In either case, significant investment in the skill development of evaluators is critical to ensure that teachers and school leaders receive fair appraisals that generate meaningful areas for improvement.

Using multiple measures, including observations, classroom or school processes, student outcomes and surveys, to conduct holistic appraisal

Teaching and school leadership are highly complex. Summarising performance in these domains in a single measurement such as a test score or single observation faces substantial reliability and validity challenges. Multiple measures of teaching and leadership practice, including observations, portfolio reviews of classroom or school processes, student outcomes, stakeholder surveys and others can help to triangulate these multiple perspectives. A critical consideration is how to weight each of these dimensions.

Weighting various factors in a multiple measure appraisal system includes both substantive and resource choices, as well as being influenced by the methodological design of the measurement. Some school systems may value the professional judgement of trained observers, whereas others may have an interest in ensuring that student and community voice is heavily represented. Measurement tools that require frequent observations, dedicated roles responsible for evaluation, or the development and administration of large-scale surveys impose considerable costs. On the other hand, measurement tools that

leverage existing practices, such as national student testing or existing student surveys, and apply the results of them to the appraisal process are less resource intensive. That is to say that the process of attributing improvements in learning to particular teachers, while methodologically debatable, is a relatively inexpensive activity. A key consideration is that any component of a multiple measure appraisal system that does little to differentiation between staff will receive less weight compared to the other measures, even if it is designed to contribute more to the overall rating.

Linking results of the appraisal process to professional development with stakes focussed on developmental plans

If school systems have an interest in supporting professional learning and growth, results of the appraisal process should be explicitly linked to professional development. Struggling teachers and school leaders might be assigned developmental plans that require more rigorous oversight to ensure that particular tasks are completed.

More highly rated staff might have more discretion in the activities they pursue. In the interest of resource preservation, these teachers and leaders might also have fewer external supports, and instead be expected to internalise the results of their appraisals and pursue independent learning activities. Of course, there are some risks to such an approach as this may limit the development of the most promising staff and lead to performance plateaus.

Notes

¹ See also the project's TeacherReady! Platform (<http://www.oecdteacherready.org>) and ongoing work as part of the OECD Study on Supporting Teacher Learning for Quality Teaching (2019-20), which examines the continuum of teachers' professional learning from initial teacher education through to the first years in teaching and beyond.

² The European Credit Transfer and Accumulation System (ECTS) is a tool of the European Higher Education Area for making studies and courses more transparent and to facilitate student mobility. ECTS credits represent learning based on defined learning outcomes and their associated workload. 60 ECTS credits are the equivalent of a full year of study or work. In a standard academic year, these credits are usually broken down into several smaller modules.

³ In Austria, responsibilities for school education differ between federal schools and provincial schools. Federal schools (*Bundesschulen*) comprise academic secondary schools as well as upper secondary vocational schools and colleges (ISCED 2-3). Provincial schools (*Landesschulen*) include primary schools, general lower secondary schools, New Secondary Schools (referred to as Secondary Schools from September 2020), special needs schools, pre-vocational schools and part-time upper secondary vocational schools (ISCED 1-3).

⁴ In Colombia, decentralisation in education has been managed by a process of certification of departments (the regional level) and districts and municipalities (the local level). All departments and large municipalities are certified to provide pre-school and school education. Education in municipalities that have not been certified is under the responsibility of the respective department.

⁵ The two programmes are the Fast Track for Migrant Teachers (*Snabbspår*) and Complimentary Pedagogical Education (*Kompletterande pedagogisk utbildning*, KPU).

⁶ On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD average reported for TALIS 2018 throughout this report, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

⁷ For instance, in Spain, teachers in urban schools report a higher level of participation compared to rural schools (3.1 percentage point difference); in Colombia, Mexico and Spain, teachers in private schools report a higher level of participation compared to public schools (6.2, 6.9 and 4.2 percentage point difference), while the opposite is the case in Chile (7 percentage points); in Chile, teachers in schools with a relatively high concentration of students from socio-economically disadvantaged homes (over 30%) report a higher level of participation compared to teachers in schools with lower concentrations of students from socio-economically disadvantaged homes (9 percentage points).

⁸ On average across the 19 PISA-participating countries and economies with available data, a rise of one unit on the index of teacher collaboration is associated with a rise of 0.22 point in teachers' satisfaction with their profession and an increase of 0.35 point in satisfaction with their current job, after accounting for teachers' demographic characteristics. The effects are similar across countries.

⁹ New Secondary Schools (*Neue Mittelschule*, NMS) were introduced in 2008 to provide a more inclusive alternative to general secondary schools, avoid early tracking and use innovative pedagogical methods. This type of school has since become the new standard school for lower secondary education and will be referred to as Secondary Schools from September 2020 onwards.

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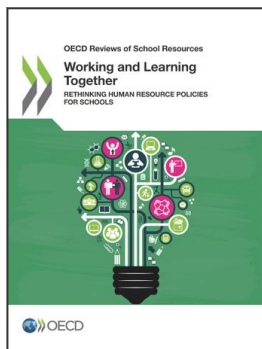
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