



## 4

# Developing and Supporting Teachers

This chapter focuses on the professional development experiences of teachers. Professional development refers to activities that aim to advance teachers' skills and knowledge, with the ultimate aim of improving their teaching practice. The chapter looks at what studies say about the importance of professional development and then discusses reports from teachers about the different types of development opportunities they receive (including induction and mentoring programmes). It also examines the range of variables related to teachers and schools that might influence the amount of professional development that a teacher undertakes. The discussion then moves to the development needs that teachers identify and the barriers that prevent teachers from getting the professional development they desire. It concludes with recommendations for policy makers, school leaders and teachers.



## Highlights

- In the participating countries and economies, an average of 88% of teachers in lower secondary education report engaging in professional development in the past year. Slightly lower participation rates are found among males and especially among non-permanent teachers. Having taken part in formal induction programmes in the past appears to be an important predictor of teachers' participation in professional development in later years.
- Although school principals report that induction programmes are currently available at their schools, on average, not even half of teachers report taking part in some induction practice in their first regular employment.
- The level and intensity of participation in professional development activities are influenced by the types of support that teachers receive to undertake them. In general, teachers report higher participation rates in professional development activities in countries where they also report higher levels of financial support. However, in some cases participation rates in professional development activities is high even though monetary support is not offered. In these cases, non-monetary support for teacher development is provided through scheduled time for activities that take place during regular working hours at the school.
- Teachers report that the areas of most critical need for professional development are in teaching students with special needs and developing information and communication technology (ICT) skills for teaching. One in five lower secondary teachers identified the former to be especially important for them, which implies that teachers do not feel fully prepared to cope with this challenge.
- Across the participating countries and economies, teachers' most commonly reported reasons for not participating in professional development activities are conflicts with work schedules and the absence of incentives for participation.

## INTRODUCTION

Ensuring that millions of teachers around the world have the essential competencies they require to be effective in the classroom is one of the keys to raising levels of student achievement. Education systems, therefore, seek to provide teachers with opportunities for developing and extending their competencies in order to achieve or maintain a high standard of teaching and to develop or retain a high-quality teacher workforce.<sup>1</sup>

Since the time when many of today's more-experienced teachers undertook their initial teacher education or training, knowledge about learning and teaching has deepened and expanded (see European Commission, 2012b). As noted at the International Summit on the Teaching Profession (Schleicher, 2012), teachers' tasks need to be expanded to include providing students with both cognitive and non-cognitive skills. These skills include ways of thinking and working (creativity, critical thinking, communication and collaboration), tools for working (including information and communications technologies) and skills related to citizenship and personal and social responsibility for succeeding in today's societies.

In-service professional development programmes aim to introduce new tools or skills or update those that teachers already possess. The professional development of teachers is defined in the relevant literature in many different ways. However, at the core of such definitions is the understanding that professional development is about teachers learning procedures, learning how to learn and transforming their knowledge into practices that benefit their students' growth (Avalos, 2011). The OECD Teaching and Learning International Survey (TALIS) adopts a broad definition of professional development (see the TALIS framework, 2013). Specifically, professional development is defined as activities that aim to develop an individual's skills, knowledge, expertise and other characteristics as a teacher.

This definition recognises that development can be provided in many ways, ranging from the most formal (such as courses or workshops) to more informal approaches (such as collaboration with other teachers or participation in extracurricular activities).<sup>2</sup> Professional development can be provided through external expertise in the form of courses, workshops or formal qualification programmes or through collaboration between schools or teachers across schools (in the form of observational visits to other schools) or within schools where teachers work. Professional development within schools can be provided through coaching or mentoring, collaborative planning and teaching and sharing good practices.



Indeed, according to recent evidence (Jackson and Bruegmann, 2009), the teachers whose students experience larger achievement gains are precisely those who have more effective colleagues (based on estimated value-added results). Box 4.1 summarises the types of professional development activities considered by TALIS.

#### Box 4.1. **Types of professional development**

The TALIS questionnaire asked teachers about the professional development they participated in during the 12 months prior to the survey. Teachers were asked to indicate whether they had participated in any of the following activities:

- **Courses/workshops** (on subject matter or methods and/or other education-related topics).
- **Education conferences or seminars** (where teachers and/or researchers present their research results and discuss education problems).
- **Observation visits to other schools.**
- **Observation visits to business premises, public organisations, or non-governmental organisations.**
- **In-service training courses** in business premises, public organisations or non-governmental organisations.
- **Qualification programmes** (e.g. a degree programme).
- **Participation in a network of teachers** formed specifically for the professional development of teachers.
- **Individual or collaborative research** on a topic of professional interest.
- **Mentoring and/or peer observation and coaching** as part of a formal school arrangement.

In addition to asking teachers about their professional development activities during the 12 months prior to the survey, TALIS also asked teachers about the support they received for undertaking these activities, their effect, the areas of their work that they found most in need of further development and the barriers they felt had prevented them from undertaking additional development activities. Teachers were also asked about their participation in induction and mentoring activities. For the purposes of TALIS, induction activities refer to activities completed during the teacher's first regular employment. In addition, TALIS asked school principals about the availability of induction and mentoring programmes in their schools. Figure 4.1 presents the elements of teacher professional development examined in TALIS.

■ Figure 4.1 ■

#### **Elements of teacher professional development examined in TALIS**



It is crucial to keep in mind two important limitations of the present analyses while interpreting the results. First, because TALIS is a cross-sectional survey, it does not show how individual professional development participation evolves or how it adapts or responds to policy changes. Second, because of the self-reporting nature of TALIS, teachers' responses regarding their participation in induction, mentoring and professional development activities are subject to the limitations of memory and perception. Nevertheless, these responses might be considered good proxies for the registered participation rates. The proposed measure of the degree of effectiveness of professional development activities is again a subjective one. However, teachers' perceptions are important as well and can be expected to influence their behaviour (see, among others, Rockoff and Speroni [2011] for recent evidence on the positive impact of subjective evaluations of teacher effectiveness on the achievement gains made by teachers' future students).



Following the structure highlighted in Figure 4.1, this chapter begins by looking at the profile and degree of teachers' participation in induction and mentoring programmes and the variation within and between countries. The objective in this section is to identify characteristics that may explain a teacher's participation in these programmes so as to provide some insight into the distribution of development opportunities.

The chapter continues by looking at the range of individual and/or school variables that may explain the intensity and diversity of teachers' participation in professional development. The diversity of professional development refers to the different types of activities that a teacher undertakes, and the intensity reflects the duration of the professional development activities. The focus is on understanding what factors may influence teachers' decisions about diversity of participation in certain professional development activities.

The third part of the chapter discusses teachers' professional development needs. It compares the extent of unsatisfied demand within and between countries and identifies the areas of teachers' work for which they report the greatest development need. This section concludes by considering how levels of unsatisfied demand relate to the professional development that teachers have received.

The last part of the chapter considers the main barriers that teachers report for not participating in professional development. This analysis is based on teachers' reports of the factors that prevent them from engaging in more professional development than they did. The final section discusses the policy implications arising from the analysis.

## INDUCTION AND MENTORING PROGRAMMES

No matter how good initial teacher education is, it cannot be expected to prepare teachers for all the challenges they face during their first regular employment as a teacher. As the European Commission noted in its recent handbook for policy makers on induction (European Commission, 2010, pp.13-16):

Effective induction programmes can avoid some of these problems ("praxis-shock" by newly-qualified teachers and consequent early drop-out from the profession) by providing all new teachers with systematic personal, social and professional support in the early years of their career. They can therefore also help improve school and teacher performance. Induction provides a vital link in the continuum of teacher education that runs from Initial Teacher Education through induction to career-long continuing professional development.

TALIS defines induction programmes for teachers as a range of structured activities at a school to support teachers' introduction into the school (or into the teaching profession for new teachers). These activities could include peer work or mentoring. This chapter first examines the policies and practices at the school level that are intended to support teachers who are either new to the profession or new to the school. Induction and mentoring programmes may help new teachers cope with initial difficulties and challenges associated with teaching. Ingersoll and Strong (2011) reviewed empirical studies on the effects of support, guidance and orientation programmes (that is, induction programmes) for beginning teachers. They found that most of the studies provide empirical evidence for the claim that support and assistance for beginning teachers have a positive influence on several outcomes, such as teachers' commitment and retention and students' achievement (Fuller, 2003; Cohen and Fuller, 2006; Fletcher, Strong and Villar, 2008).<sup>3</sup> In particular, empirical evidence shows that students taught by teachers who receive comprehensive induction support demonstrate learning gains that are larger than those experienced by students taught by teachers who do not receive such support (see, for instance, Glazerman et al., 2010).

TALIS 2013 sought to learn through two channels the extent to which induction and mentoring programmes for new teachers exist in lower secondary schools. First, school principals were asked whether induction and mentoring were available for teachers new to the school or new to teaching. Second, teachers were asked about their participation in induction programmes in their first regular employment as a teacher and their current participation in mentoring activities (either as a mentor or a recipient of mentoring). The following section examines what percentage of teachers has access to induction programmes in their schools in a variety of formats.

### Availability of induction programmes

Figure 4.2 and the first columns of Table 4.1 show country-level availability of induction programmes for the lower secondary teacher population. On average across participating countries, 44% of teachers work in schools where principals report the availability of formal induction programmes for all new teachers to the school, and 22% work in schools where induction programmes are available only for teachers new to teaching. In total, more than three-quarters of teachers (76%) work in schools with informal induction programmes. Finally, some 86% of teachers work in schools where school principals report the availability of general and/or administrative introduction programmes. However, there is great variation among countries.

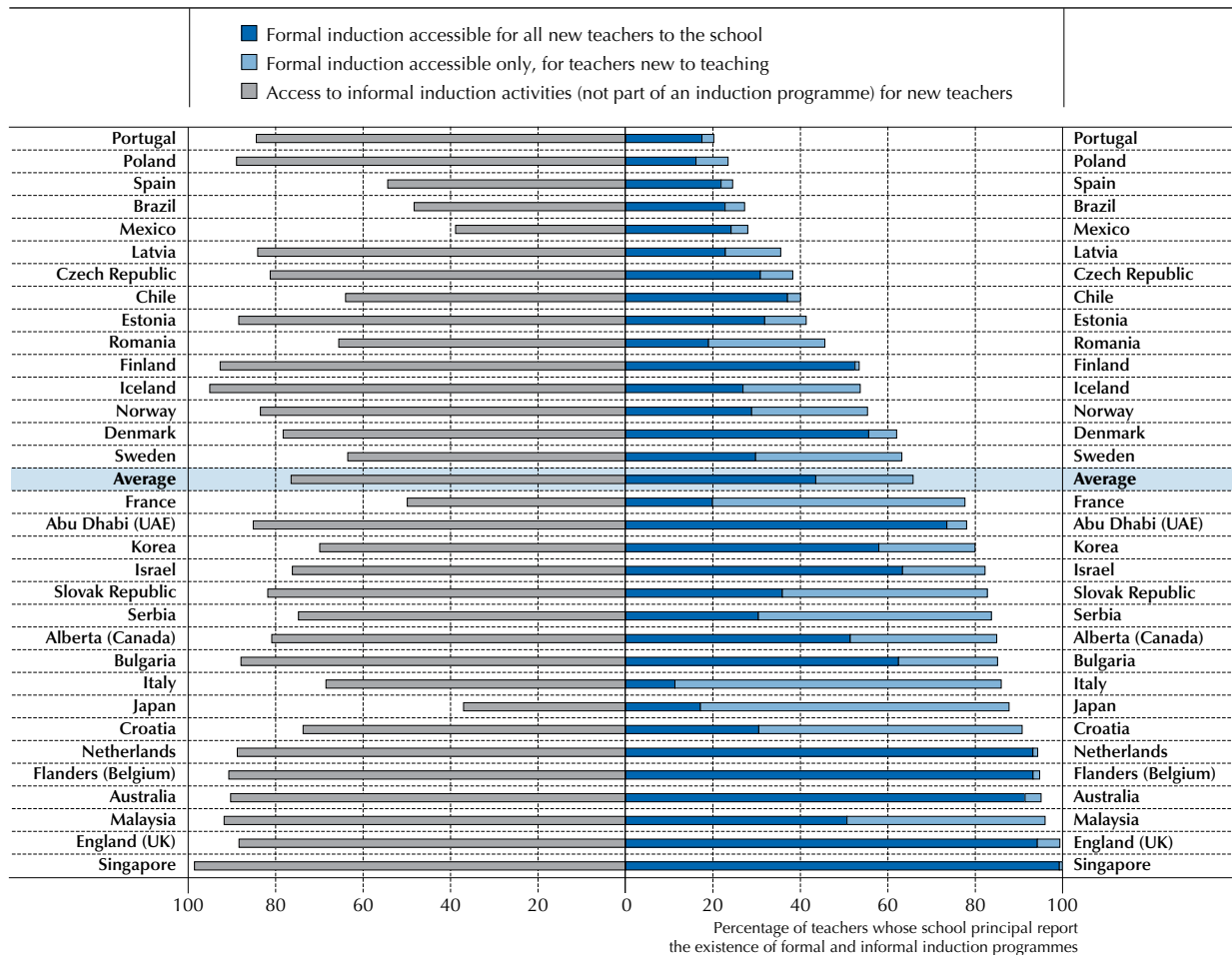


As shown in Figure 4.2, in general, those countries with a greater number of formal induction programmes are also those with more informal ones. A possible explanation for this pattern (which, unfortunately, cannot be addressed with TALIS data) could be that schools in these countries consider these programmes to be complementary instead of substitutes for one another. This could be the case if, for example, formal induction programmes are offered during a limited time period, whereas informal induction activities are not. However, the Czech Republic, Estonia, Finland, Iceland, Latvia, Poland and Portugal show quite large differences between both types of induction programmes. In particular, the informal induction activities in these countries are much more frequent than formal induction programmes. Finally, there are also large differences in Japan, but in contrast to the previous case, the formal induction programmes in Japan are much more frequent than informal induction activities.

In some countries, most teachers work in schools that don't have a formal induction programme. This is the case in Brazil, Mexico, Poland, Portugal and Spain, where between 70% and 80% of teachers work in schools that do not have an induction programme. The situation in these countries contrasts sharply to that in Australia, Malaysia, the Netherlands, Singapore, England (United Kingdom) and Flanders (Belgium), where formal induction programmes are virtually universal for all new teachers to the school. In Singapore and England (United Kingdom), only a small fraction of teachers (less than 1%) are in schools that lack any formal induction programme.

■ Figure 4.2 ■

**Access to formal and informal induction programmes or activities**  
 Percentage of lower secondary education teachers whose school principal reports the existence of formal and informal inductions



Countries are ranked in ascending order, based on the cumulative percentage of teachers whose school principal reports access to formal induction programmes for all new teachers to the school and for only teachers new to teaching.

Source: OECD, TALIS 2013 Database, Table 4.1.

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As with formal induction, informal induction activities are also available for most new teachers in Australia (90%), Flanders (Belgium) (91%), Finland (93%), Iceland (95%), Malaysia (92%) and Singapore (99%). However, informal induction activities are less frequent in Japan and Mexico, where only 37% and 39% of teachers, respectively, are in schools where these are available.

Finally, general and/or administrative introductions for new teachers are very common in most countries: On average, 86% of teachers are in schools where these activities are in place. Only in Mexico do no more than 50% of teachers work in schools in which any particular one of the three types of induction activities are offered.

Box 4.2 examines the availability of induction programmes for primary and upper secondary teachers in those countries that have implemented TALIS for those populations.

#### Box 4.2. **Availability of induction in primary and upper secondary education**

Tables 4.1.a and 4.1.b show the country-level availability of induction programmes for the primary (ISCED 1) and upper secondary (ISCED 3) teacher populations, respectively, in those countries with available data.

Table 4.1.a shows that, in general, primary teachers report slightly less access to induction programmes than their lower secondary colleagues. More primary teachers are in schools with no induction programmes in Finland, Mexico and Flanders (Belgium). In addition, in Mexico and Flanders (Belgium), the percentage of primary teachers who are in schools where principals report the availability of informal induction activities or general introduction programmes is lower than the corresponding figure for lower secondary teachers. In other words, in the countries listed here, teachers in primary education are more likely than teachers in lower secondary education to work in schools with no induction programmes (either formal or informal) or without general introduction programmes.

For upper secondary teachers, Table 4.1.b shows that, as for lower secondary teachers, formal induction practices are virtually universally available for all new teachers in schools in Singapore. In Denmark, Finland, Mexico and Norway, for example, there is greater availability of formal induction programmes for upper secondary teachers than for lower secondary teachers. In most countries with comparable data, the availability of general or administrative introduction programmes is greater for upper secondary teachers than for lower secondary ones.

Box 4.3 describes details of the education system in Singapore that can help explain the broad availability of induction programmes for new teachers there, and provides information on the continuous approach to initial teacher training and induction in France.

#### Box 4.3. **Induction programmes in Singapore and France**

##### **The central role of induction in Singapore**

Upon completion of preservice teacher education, beginning teachers in Singapore undergo induction at both the national and school levels.

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

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

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### Box 4.3. Induction programmes in Singapore and France (cont.)

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

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

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

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

### Participation rates in induction programmes

The previous section explored the availability of induction programmes in schools across TALIS countries and economies. This section examines TALIS data about teachers’ reported participation in such programmes. The last columns in Table 4.1 show country-level participation for lower secondary school teachers in formal induction, informal induction and general introduction activities, as reported by teachers. For each of the activities, almost 50% of teachers on average report participation. Hence, important differences exist between the availability of induction programmes or activities and participation rates. Even though participation rates in some countries exceed availability (for example, in Mexico this occurs for both formal and informal induction programmes), Table 4.1 shows that in most countries, teachers’ participation rates are generally lower than the reported availability levels. This last finding might be an indication of low engagement of teachers in these activities, in spite of their availability, but it might also reflect that teachers are asked about their participation in these activities in their first employment as a teacher, whereas principals report on the current availability of such activities in their school (i.e. the reference period for these responses may or may not overlap).

When participation rates are compared across countries, some notable differences are evident. In Japan, Malaysia and Singapore, participation in induction programmes is extensive, with 80% or more of teachers reporting participation in a formal induction programme. This contrasts with Finland, Norway and Sweden, where only 10% to 16% of teachers report having participated in a formal induction programme. With respect to informal induction activities, the largest participation rates are in Bulgaria, Korea, Malaysia, Poland, Romania and Singapore (around 60% in each country).

### Box 4.4. Participation in induction in primary and upper secondary education

Table 4.1.a and Table 4.1.b show country-level participation in induction programmes for primary (ISCED 1) and upper secondary (ISCED 3) school teachers. The largest difference between participation rates for primary and lower secondary teachers in any type of induction programme occurs in Flanders (Belgium). On average, among all primary education teachers in the participating countries, only 30% participated in formal induction programmes, while 42% report having participated in informal induction and 35% report having engaged in general introduction activities.

On average for countries with data for lower and upper secondary education, the reported participation rates in each type of activity are very similar for these levels of education (averages are about half of the teachers). In Denmark, upper secondary teachers report much greater participation than their lower secondary colleagues in each of the two induction programmes (formal and informal) and also in general/administrative introduction activities. A similar pattern is observed in Mexico even though the difference between both types of teachers is not as important.



Similarly, in Bulgaria, Malaysia and Singapore, a large majority (more than 80%) of teachers report taking part in general or administrative introduction activities. This is different from the situation in Norway, Portugal, Spain and Sweden, where less than a quarter of teachers say they participated in general or administrative inductions. As explained previously, some countries offer their teachers more informal induction activities than formal induction programmes. However, in the majority of countries in which teachers indicate a high participation in formal programmes, there is also high participation reported in informal activities.

Box 4.4 examines participation rates in induction programmes for primary and upper secondary teachers in those countries with available data.

Table 4.2 shows the characteristics of teachers who report having participated in formal induction programmes in their first regular employment as a teacher. There are no important differences in participation between male and female teachers. Similarly, differences in participation rates between permanent and fixed-term teachers are not very large, on average. There are, however, some countries where these differences are more important. First, in France, Japan and Serbia, approximately twice as many permanent teachers as fixed-term teachers report having participated in induction programmes. In Italy, permanent teachers are more than six times more likely than teachers with fixed-term contracts to report having participated in formal induction. The reverse occurs in the Netherlands, Norway, Sweden and Flanders (Belgium). For example, among permanent teachers in Sweden, only 10% report participating in induction programmes, compared with 19% among fixed-term teachers. (The percentages are 37%, 42% and 9% for permanent teachers and 68%, 64% and 19% for fixed-term teachers, respectively, in Flanders (Belgium), the Netherlands and Norway.) Although in some countries, years of teaching experience seems to be an important factor in teachers' reports of having participated in induction programmes, more experienced teachers on average are only slightly less likely to report having participated (about 5 percentage points, on average) in these types of programmes. This difference is more pronounced in Israel, Singapore and Flanders (Belgium), although the proportion of more-experienced teachers in Singapore who report participating in induction (69%) is relatively high compared with other countries. This might indicate a trend toward required participation or just greater availability of formal induction programmes in recent years. Again, some countries present the opposite behaviour: Less-experienced teachers seem to participate less than experienced teachers in Italy and Japan, even though in Japan, participation rates are still not that low. In particular, the participation rates in Italy and Japan for teachers with more than five years of teaching experience are 52% and 88%, respectively, whereas the participation rates in these countries of teachers with less than five years of teaching experience are 19% and 66%. Since different participation patterns emerge in different countries, it seems important to study the country-specific profile of teachers who report undertaking induction to better understand those who do not participate in these programmes.

As noted earlier, the current availability of induction programmes as reported by school principals is larger than past participation in induction programmes reported by teachers. Empirical evidence shows that students taught by teachers who receive comprehensive induction support demonstrate learning gains that are greater than those experienced by students taught by teachers who did not receive such support (Glazerman et al., 2010).

Figure 4.3 depicts new teachers' access to and participation in induction programmes. Note that to accurately examine the association between the availability of and participation in induction programmes, the participation rate of teachers who have access to induction programmes at the time they are eligible for such programmes (i.e. at the beginning of their career or when they join a new school) is needed. Unfortunately, TALIS did not gather such data, and thus an approximation approach has been taken. In particular, the analysis focuses on teachers who have less than three years of experience as a teacher and who have been working in their current school for less than three years. Restricting the sample to these less-experienced teachers reduces the time period that may have elapsed since their eligibility for induction programmes and increases the chances that these teachers are still working in their first school (for which data about principals' reports on the availability of induction programmes are available).

As shown in Figure 4.3, whereas on average 70% of these less-experienced teachers work in schools where principals report that induction programmes are available, only slightly more than half of these teachers report having taken part in such programmes. This means that some teachers who have access to such programmes may not be taking advantage of them. Teachers' reported participation in induction programmes appears to match principals' reports on their availability in schools in the Czech Republic, Malaysia, Romania, Singapore and England (United Kingdom), suggesting that most teachers are taking advantage of the available induction programmes.

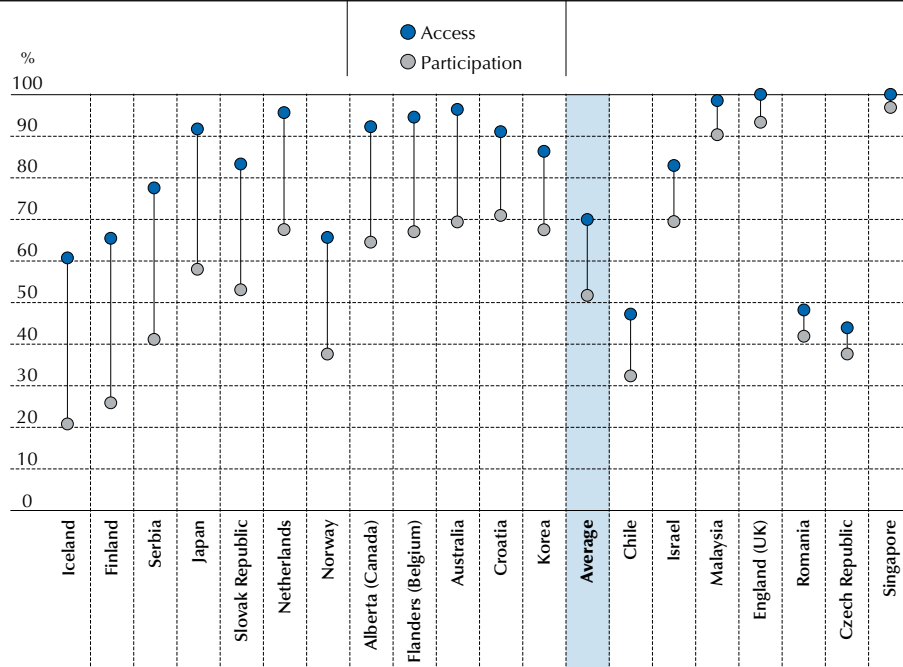




■ Figure 4.3 ■

### New teachers' access to and participation in formal induction programmes

Percentage of lower secondary education teachers who have less than three years of experience at their school and less than three years of experience as a teacher who are working in schools where the principal reports the following access to formal induction programmes and the percentage of teachers with the same characteristics who report having participated in formal induction programmes<sup>1,2</sup>




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

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

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

Source: OECD, TALIS 2013 Database, Table 4.28.Web.

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### Availability of mentoring programmes

Another often-discussed method of professional development is mentoring, which in TALIS 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.

The literature similarly defines mentoring as personal guidance, usually provided by more-experienced teachers to beginning teachers. Recently, mentoring programmes have become a dominant form of teacher induction (Strong, 2009). Indeed, as Hobson et al. (2009) recognise, many countries have seen a massive increase in the number of formal programmes of school-based mentoring for beginning teachers. The overall objective of teacher-mentoring programmes is to give newcomers a local guide, but the character and content of these programmes varies widely. In addition, evidence shows that teachers who receive more hours of mentoring have higher student achievement gains than those who had fewer hours of mentoring (Rockoff, 2008).

Across TALIS countries, one-quarter of teachers on average work in schools where principals report that no mentoring programme is available (Table 4.3). Yet for the other three-quarters of teachers, a huge heterogeneity exists in the access to mentoring programmes across countries (that is, whether such access is offered only to teachers new to the school, only to those new to teaching or to all new teachers). In general, there are important differences in availability rates across countries. Some countries have a large percentage of teachers with no access to such programmes (Chile, Finland, Mexico, Portugal and Spain), whereas others (Australia, Croatia, England [United Kingdom], the Netherlands, Serbia and Singapore) offer these programmes to almost all teachers.



The target teacher population for mentoring programmes also differs across countries. For example, in Croatia, France and Serbia, more than two-thirds of teachers work in schools where principals report that mentoring programmes are directed only at teachers who are new to teaching. On the contrary, in Flanders (Belgium) nearly two-thirds of teachers work in schools where the principals report that these programmes are available for all teachers who are new to the school. Finally, in Brazil, the Netherlands, Romania, and Abu Dhabi (United Arab Emirates), more than half of teachers work in schools where the principals report that mentoring programmes are available for all teachers in the school.

Evidence supports the idea that the quality of the mentor also influences the impact of these programmes on outcomes such as teachers' classroom practices. For example, Evertson et al. (2000) found that teachers with trained mentors had better classroom organisation and students were more engaged. A characteristic of mentoring programmes that might capture their quality to some extent is whether the subject field of the mentor is the same as that of the teacher being mentored. This alignment between the subject field expertise of the mentor and the teacher being mentored has been shown to influence the impact of teachers on students (Dee, 2005). That congruence is shown in the middle part of Table 4.3. On average, 68% of teachers who work in schools with a mentoring system work in schools where the principal claims that most of the time, the subject field of the mentor was the same as that of the teacher being mentored.

In Croatia, the Czech Republic, France, Israel, Italy, Poland, Portugal, Serbia, Singapore and the Slovak Republic, the subject field of the mentor is mostly the same as that of the teacher being mentored (in particular, the percentage of teachers who work in schools with a mentoring system and where the principal claims that the subject field of the mentor and the mentee is the same most of the time is above 80%). This is not the case in the Netherlands and Flanders (Belgium), where about one-third of teachers who work in schools with a mentoring system also work in schools where the subject field of the mentor is rarely or never the same as that of the teacher being mentored.

Box 4.5 examines the reported availability of mentoring programmes for primary and upper secondary teachers in those countries that have implemented TALIS for those populations.

#### Box 4.5. **Availability of mentoring programmes in primary and upper secondary education**

Tables 4.3.a and 4.3.b show country-level availability of mentoring programmes for primary (ISCED 1) and upper secondary (ISCED 3) teacher populations. This availability is lower on average for primary teachers than for lower secondary teachers (when comparing those countries with data for both populations). In Flanders (Belgium) and Mexico, the rate of teachers working in schools whose school principals report no availability of mentoring programmes is much larger for primary than for lower secondary teachers. However, the concordance between subject fields of mentor and mentored teachers is larger for primary teachers than for lower secondary teachers in Norway and Flanders (Belgium). The reverse is true for Denmark.

The availability of mentoring programmes for upper secondary teachers is similar to that for lower secondary teachers. In countries such as Denmark and Norway, there is a larger percentage of schools where mentoring programmes are available for upper secondary teachers than for the lower secondary ones. Finally, the concordance between mentor and mentoring subject field(s) among upper secondary teachers is also much greater in these two countries.

### **Participation rates in mentoring programmes**

As with the discussion of induction programmes, now that the availability of mentoring programmes has been examined, the following sections turn to teachers' participation rates in these programmes. Table 4.3 also shows teachers' participation in mentoring programmes as either mentor or mentee. On average across TALIS countries, 14% of teachers report serving as mentors for other teachers. This rate is much higher in Korea (34%), Singapore (39%) and England (United Kingdom) (31%). Participation in mentoring programmes as mentees varies significantly across countries. In 19 countries, less than 10% of teachers report that they currently have an assigned mentor to support them. This contrasts with countries such as Brazil (34%), Japan (33%), Malaysia (27%), Singapore (40%) and Abu Dhabi (United Arab Emirates) (52%), where these figures are above 25%.

Box 4.6 examines participation rates in mentoring programmes for primary and upper secondary teachers in those countries that have implemented TALIS for those populations.



#### Box 4.6. Participation in mentoring programmes in primary and upper secondary education

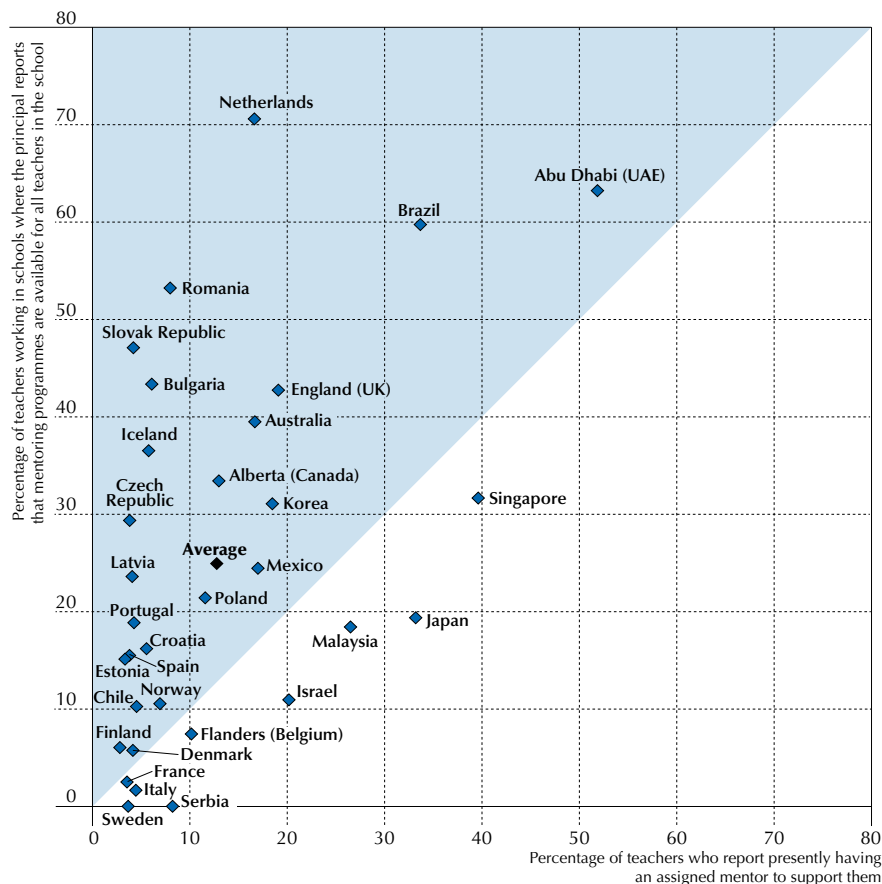
Tables 4.3.a and 4.3.b show country-level participation in mentoring programmes for primary (ISCED 1) and upper secondary (ISCED 3) school teachers. Again, participation rates in mentoring programmes (either as a mentor or as a mentee) among primary teachers are only slightly lower, on average, than among lower secondary teachers.

On average, 8% of teachers report having a mentor assigned to them in lower secondary schools versus 15% in upper secondary schools. In addition, a higher percentage of teachers reports acting as a mentor in upper secondary schools (19%) compared with lower secondary schools (9%). In particular, the proportion is almost three times as large for upper secondary (25%) than for lower secondary (9%) teachers in Denmark.


■ Figure 4.4 ■

#### Availability of and participation in mentoring activities

*Percentage of lower secondary education teachers whose school principal reports that mentoring is available for all teachers in the school and the percentage of teachers who report presently having an assigned mentor*



Source: OECD, TALIS 2013 Database, Table 4.3.

StatLink  <http://dx.doi.org/10.1787/888933041478>

Tables 4.4 and 4.5 show the characteristics of teachers who report receiving mentoring and of those who report serving as mentors. First, with a few exceptions (namely, Brazil, Japan, Korea, Poland and Abu Dhabi [United Arab Emirates]), no notable differences exist between the percentages of male and female teachers who report either serving as a mentor or receiving mentoring. However, and quite reasonably, teachers with more experience tend to report acting as mentors more and tend to report receiving mentoring less. Likewise, permanent teachers are more likely to report serving as mentors, whereas fixed-term teachers tend to report receiving less mentoring.



Figure 4.4 presents the availability of mentoring programmes for all teachers in the school for each country, along with the percentage of teachers who report having an assigned mentor. This figure shows a clear positive correlation between the reported availability of mentoring for all teachers in schools and the percentage of teachers who report having an assigned mentor. In most countries, a larger proportion of teachers work in schools where the principal reports the availability of mentoring programmes for all teachers than do teachers who report having a mentor (indicated by the shaded area in Figure 4.4). This suggests that not all teachers in schools with mentoring programmes for all teachers report having mentors. This result may not be surprising given that we should not expect all teachers in these schools to have mentors (at the very least, some teachers in these schools act as mentors). In some countries, however, there is a very large difference between the proportion of teachers who work in schools with mentoring programmes for all teachers and the proportion of teachers who report having a mentor. In the Netherlands, although 71% of teachers work in schools where the principal reports the availability of mentoring programmes, only 17% of teachers report having a mentor. In Romania, these percentages are 53% and 8%, respectively. As previously noted, mentoring programmes can have an important impact on teachers' classroom practices and students' outcomes (Rockoff, 2008). Thus, it is important to identify these countries – or schools within a country – where in spite of the high availability of mentoring programmes, participation rates among teachers are not high. School leaders need to highlight the benefits of such programmes for teachers and remove any barriers to access to ensure that teachers can actively engage in these activities and reap the positive outcomes that will ensue.<sup>4</sup>

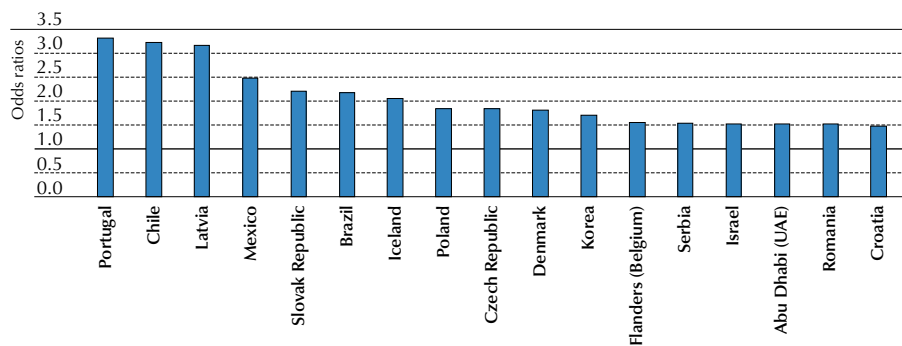
Teachers' past participation in induction programmes improves their performance and thus might better prepare them to serve as mentors. Based on empirical evidence that shows the importance of the quality of the mentor on modulating the positive effects of mentoring (Evertson et al., 2000), this section examines the effect of having participated in induction activities in the past on the likelihood of a teacher acting as a mentor in the present.

Analyses examined the factors associated with teachers' reported engagement in mentoring activities.<sup>5</sup> Of particular interest here is the association of a teacher having participated in a formal induction programme in the past with the teacher's current probability of acting as a mentor.<sup>6</sup> Figure 4.5 illustrates the predicted change in the probability of acting as a mentor for those teachers who participated in a formal induction programme in the past, compared with those who did not, while controlling for a number of other teacher and school characteristics that might influence this relationship (see also Table 4.29.Web). The results show that in 17 countries, teachers who report having participated in a formal induction programme in the past are more likely to report that they currently act as a mentor than those who report not having participated in such programmes (for the rest of the countries, this relationship is not statistically significant).<sup>7</sup> This effect is, however, highly varied across countries. Whereas the effect of formal induction programmes is quite large in Chile, Latvia and Portugal, where these teachers are more than three times as likely to report being a mentor, the relationship is not significant in 11 countries (Table 4.29.Web). In some countries, therefore, these results suggest that early policy interventions, as, for example, participating in an induction programme during the first employment, might have a long-term impact on teachers' later willingness to help other teachers to improve their teaching capacities.

■ Figure 4.5 ■


### Predicted effect of formal induction programme participation on acting as a mentor

Probability for lower secondary education teachers who report having participated in a formal induction programme to report acting as a mentor versus teachers who report not having participated such programmes<sup>1</sup>



1. Countries for which the odds ratio is not statistically significant at 5% or where data are representing less than 5% of the cases are not presented in this figure. Countries are ranked in descending order, based on the predicted effect of participating in any induction programme on the probability of acting as a mentor.

Source: OECD, TALIS 2013 Database, Table 4.29.Web.

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In sum, the TALIS data show that while various types of induction programmes are spread across participating countries, there are important differences between the reported availability and participation rates. Regarding mentoring programmes, data indicate that even though the availability of these programmes is a source of concern in some countries, availability is greater than participation rates in many countries. Hence, this suggests a need not only to support schools to ensure the availability of both programmes but for policy makers and school leaders to ensure that teachers engage in these supporting programmes.

## WHY TEACHERS PARTICIPATE IN PROFESSIONAL DEVELOPMENT

As previously noted, the role of education and teaching is expanding in today's societies. Therefore, teachers today need to be able to constantly reflect on and evaluate their work and to innovate and adapt accordingly. These skills will give them the flexibility to modify classroom practices to respond to students' needs. As emphasised in European Commission (2012b: 8-9):

Teaching competences are thus complex combinations of knowledge, skills, understanding, values and attitudes, leading to effective action in situation. [...] The range and complexity of competencies required for teaching in actual societies is so great that any one individual is unlikely to have them all, nor to have developed them all to the same high degree. [...] Teachers' continuous professional development is, thus, highly relevant both for improving educational performance and effectiveness and for enhancing teachers' commitment".

Meanwhile, empirical evidence increasingly shows the positive impact of teachers' professional development on students' scores. Yoon et al. (2007) provide a review of several research studies on this issue. They conclude that professional development that includes a substantial number of hours spread out over 6 to 12 months shows positive and significant effects on student achievement gains. Hill, Beisiegel and Jacob (2013) also provide a review of evidence based on key questions in the literature of professional development, providing similar results to the ones commented on above. All these findings, together with additional evidence regarding the impact of teachers' competences on students' achievement,<sup>8</sup> have led policy makers around the world to support the relevance and quality of career-long opportunities for professional development.

### Participation rates

This section analyses teachers' participation rates in various professional development activities. Participation rates are measured in terms of the percentage of teachers who participated in any of the activities described in Box 4.1 during the 12-month period prior to the survey.

Table 4.6 shows country-level participation rates in professional development for lower secondary teachers. On average across participating countries, about 88% of teachers report engaging in some professional development (defined as having taken part in at least one activity in the previous 12 months) over the survey period. This finding reinforces the similar finding in TALIS 2008 (which showed an average participation rate of 89%) and thus suggests that participation in professional development is a fairly common feature in the professional careers of most teachers in the participating countries (OECD, 2009).

Nevertheless, notable differences are found among participation rates across countries. Participation rates are greater than 95% in Australia, Croatia, Latvia, Malaysia, Mexico, Singapore and Alberta (Canada), but this rate is below 75% in Chile (72%) and the Slovak Republic (73%). The relatively high rates of non-participation in these countries could be a source of concern for all agents participating in their educational system, from teachers and school leaders to education policy makers.

The second column in Table 4.6 shows the proportion of teachers who did not receive any type of support for their participation in professional development. On average across participating countries, less than 6% of teachers undertook professional development activities without receiving any type of support. Nevertheless, in some countries this proportion is well above average, as is the case in Portugal (29%) and Romania (21%). This fact might reflect a high commitment of teachers in these countries to improving their effectiveness and performance, which leads them to undertake professional development activities without any kind of support.

The last three columns of Table 4.6 represent the financial commitments associated with those professional development activities. On average, about two-thirds of teachers who participated in professional development during the 12 months prior to the survey reported that they did not have to pay personally for the professional development activities they

participated in. There are, of course, differences among countries. On the one hand, most of these activities are basically costless for teachers in Singapore and England (United Kingdom). On the other hand, some countries have a higher proportion of teachers (compared with the overall average of 9%) who claimed that they had to pay all the costs – Brazil (20%), Chile (17%), Portugal (33%) and Romania (28%).

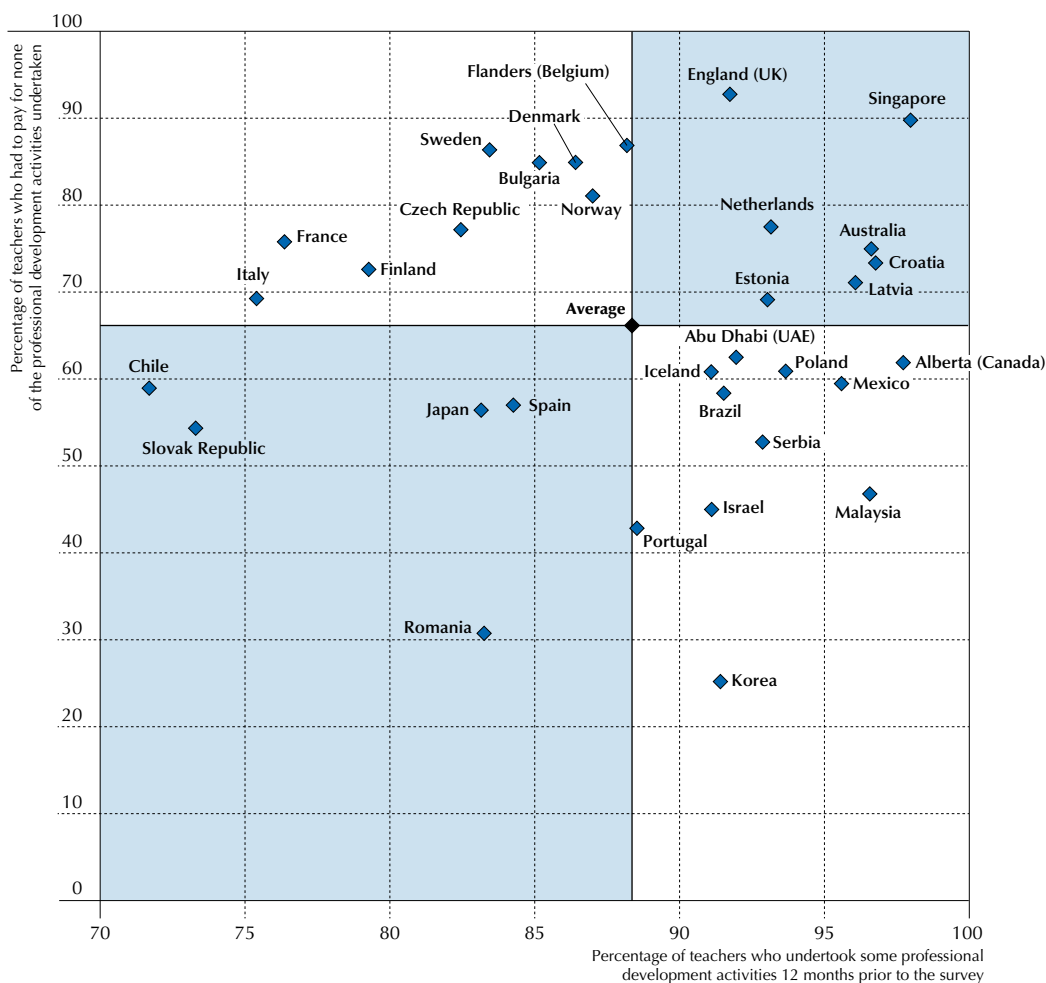
Figure 4.6 illustrates the positive correlation between the percentage of teachers who reported not having to pay for any of the professional development they engaged in and teachers' reported participation in professional development. Countries in the bottom-left quadrant of the figure (Chile, Japan, Romania, the Slovak Republic and Spain) show both lower-than-average proportions of teachers who say they did not have to pay for any of their development activities and below-average participation rates in professional development. The figure clearly shows that teachers are willing to assume at least some of the cost of their professional development. Eleven countries can be found in the lower-right quadrant in the figure. In these countries, although fewer teachers than average report that they had to pay for none of their development activities, there are higher-than-average participation rates in professional development.

Box 4.7 examines participation rates in professional development programmes for primary and upper secondary teachers in those countries that have implemented TALIS for those populations.


■ Figure 4.6 ■

### Teachers' recent participation in professional development, by their personal financial cost

*Participation rates and reported personal financial cost of professional development activities undertaken by lower secondary education teachers in the 12 months prior to the survey*



Source: OECD, TALIS 2013 Database, Table 4.6.

StatLink  <http://dx.doi.org/10.1787/888933041516>





### Box 4.7. Participation in professional development activities in primary and upper secondary education

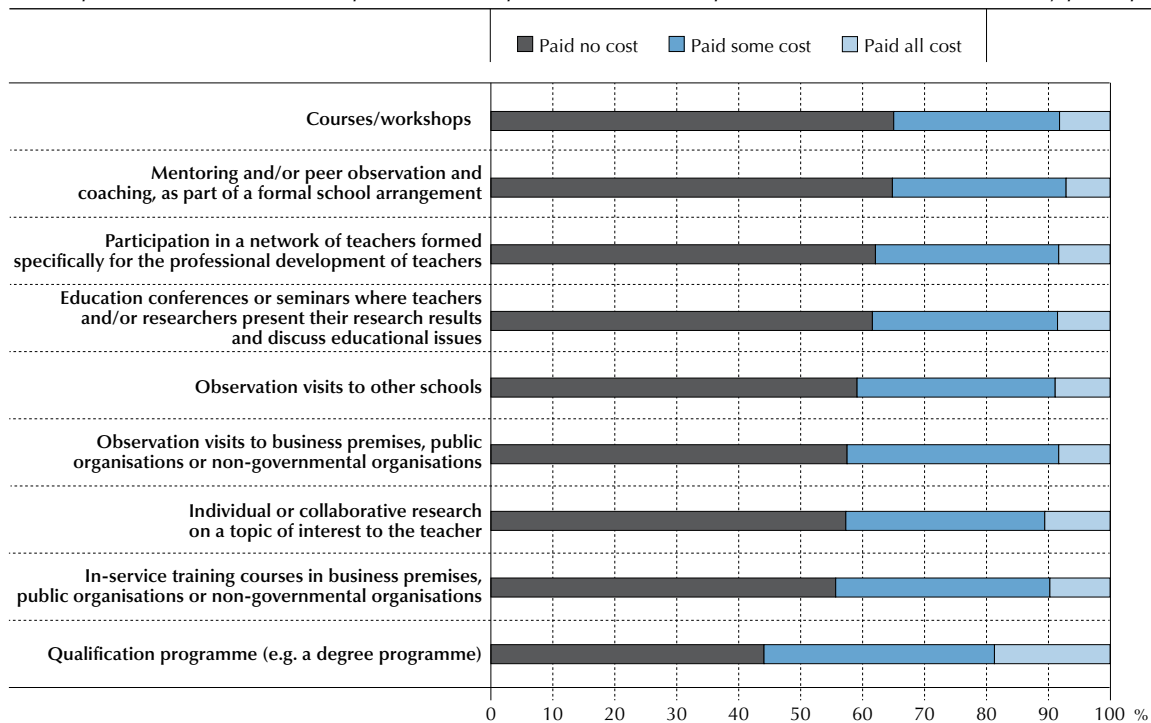
Tables 4.6.a and 4.6.b show country-level participation in professional development activities for primary (ISCED 1) and upper secondary (ISCED 3) teachers. There are no large differences between primary and lower secondary teachers' participation rates. However, in Finland, Mexico and Norway, a higher percentage of primary teachers than lower secondary teachers report that they did not have to pay. In general, participation rates among upper secondary teachers are slightly greater than among lower secondary teachers, with the exception of Iceland. Regarding the personal payment for these activities, there are no important differences between the proportions of primary and upper secondary teachers who report paying for all or none of their activities and their lower secondary teacher counterparts.

Different types of professional development activities require different levels of investment. Figure 4.7 represents the levels of personal payment among teachers in relation to the type of professional development in which they participated. In general, more than half of the teachers who participated in professional development activities said that they paid nothing regardless of the type of programme (with the exception of qualification programmes), and 10% or less of teachers said that they paid the full cost. Qualification programmes tend to require more involvement (both in terms of time and money) and tend to be organised outside the confines of the school (i.e. at a university or college). It is not surprising, therefore, that these programmes are also those for which teachers are more likely to pay some or all of the cost. A very similar result was found in TALIS 2008 (see Box 4.8).

■ Figure 4.7 ■

#### Level of personal payment for teachers' professional development participation


Percentage of lower secondary education teachers who report having participated in the following professional development activities and who "paid no cost", "paid some cost" or "paid all cost" for the activities they participated in<sup>1</sup>



1. Teachers can participate in more than one professional development activity at the same time. Teachers were not asked about the level of personal payment for each activity but rather for their general level of personal payment for all the professional development activities they participated in. Therefore, the percentages presented in this figure should be interpreted as the level of general personal payment reported by the teachers who participated in each type of professional development activity.

Professional development activities are ranked in descending order, based on the average percentage of teachers who reported paying no cost.

Source: OECD, TALIS 2013 Database, Tables 4.6 and 4.9.

StatLink  <http://dx.doi.org/10.1787/888933041535>



#### Box 4.8. **Comparing lower secondary teachers' participation in professional development activities, TALIS 2008 and TALIS 2013**

The first two columns of Table 4.6.c list the participation rates in professional development activities of lower secondary teachers across the countries that participated in both TALIS 2008 and TALIS 2013.<sup>9</sup> The results shown in this table indicate that the average participation rate is very similar for both cycles. However, some differences emerge across countries. For example, participation in professional development activities is lower in 2013 in Spain (100% vs. 84%) and Italy (85% vs. 75%). This contrasts with higher participation rates observed in 2013 in Denmark (76% vs. 86%) and Iceland (77% vs. 91%).

Finally, the remaining columns in Table 4.6.c show the differences in the financial aspects of those professional development activities. There is no clear pattern in the differences between both cycles of the survey in the percentage of teachers who report paying for these professional activities. For example, looking at those countries whose participation rates in professional development activities are higher in 2013 than in 2008 (Denmark and Iceland), it can be observed that whereas in Denmark the percentage of teachers who report not paying is higher by 8 percentage points in 2013, in Iceland the percentage of teachers who report paying none of the full cost is lower in 2013 (61%) than in 2008 (68%).

### **How does participation vary by teacher and school characteristics?**

To better understand the differences in participation rates in professional development activities, this section provides an analysis of the characteristics of teachers who participate in professional development activities and of the schools in which they work.<sup>10</sup> The results shown in Tables 4.7 and 4.8 are related to lower secondary teachers who took some professional development in the survey period. The teacher and school characteristics chosen for the comparison are those that were the most significant in the country regression analyses shown in Table 4.21.Web.

#### **Gender differences**

On average across participating countries, reported participation rates in professional development are slightly greater among women than men (89% on average for female teachers compared with 87% for male teachers; this difference being the same when holding all other variables constant).<sup>11</sup> In some countries, the reported participation rates were nearly equal for both genders. The largest differences in favor of female teachers were found in Italy and the Slovak Republic (on average, nine and eight percentage points more, respectively). In a few countries, male teachers report higher participation rates, the largest difference being Abu Dhabi (United Arab Emirates) (5 percentage points). (Table 4.7.)

#### **Teaching Experience**

On average, reported participation rates in professional development activities do not vary much with teaching experience: 89% of teachers with more than five years of experience report participating in professional development versus 87% of less-experienced teachers (Table 4.7). However, some countries and economies, such as Iceland or Abu Dhabi (United Arab Emirates), show larger differences, with more-experienced teachers participating in professional development activities much more often than less-experienced ones (a difference of 13 percentage points). In contrast, it is interesting that in Norway and Spain, the difference in participation rates is in favor of less-experienced teachers, who seem to be more active in professional development activities than are more-experienced teachers.

#### **Work status differences**

On average across participating countries, reported participation rates in professional development activities are lower among non-permanent teachers (Table 4.7). In general, permanent teachers claimed that they participated more in professional development activities than did fixed-term teachers (89% compared with 85% respectively, on average). The country with the largest difference between these two groups of teachers is Iceland, where the participation rate among teachers on fixed-term contracts is 15 percentage points lower than their permanent counterparts. There might be several explanations for the pattern found for permanent and non-permanent teachers. For instance, these two types of teachers might also differ in other characteristics, such as initiative and commitment to the profession, that affect both their employment status and professional development participation. Unfortunately, as TALIS data cannot provide information in this regard, further conclusions must be approached with caution. Nevertheless, countries and schools may want to consider ensuring that professional development is also made available to non-permanent teachers.



Teachers who work more than 30 hours per week report participating in professional development activities more than teachers who work less than 30 hours per week. The largest difference in favor of teachers working more than 30 hours per week is in Japan (16%).

### ***Differences between public and private schools***

Table 4.8 shows the main characteristics of the schools in which teachers who undertake professional development activities work. On average for all countries considered, participation rates in professional development activities are slightly greater among teachers working in public schools than in private ones. (See Chapter 2 for a complete definition of both types of schools.) The largest differences in favour of public school teachers are in Japan (17 percentage points) and France (9 percentage points). There are also some differences in favour of private school teachers in Portugal, the Slovak Republic and Spain (between 4 and 6 percentage points). In the case of Portugal, the difference could be related to the fact that more teachers say they have to pay for their professional development activities there. But it could also be that the supply of activities differs among public and private schools in some countries. (See further discussion in the subsection about barriers to participation.)

### ***School location differences***

As with the findings in TALIS 2008 (see OECD, 2009), on average the participation rate of teachers in professional development activities is very similar regardless of whether the schools in which they work are located in a village, town or city. Even though some variation occurs across countries, differences are not large (Table 4.8).

For example, in Chile and Romania, teachers in less urban areas (with 15 000 or fewer inhabitants) took part in slightly fewer professional development activities compared with their counterparts in other types of communities (a participation rate of about 10 percentage points more). In these two countries, participation rates increase with the size of the population in the school's locality. The reverse occurs in Brazil, Italy and Japan. On average, however, the geographic location of the school does not have a significant impact on lower secondary teacher's participation in professional development activities. (See Table 4.21.Web for the estimated effect of this variable on the probability of participating in professional development activities.)

## **HOW MUCH PROFESSIONAL DEVELOPMENT DO TEACHERS GET?**

This section analyses the intensity and diversity of participation in professional development activities across the lower secondary teacher population. In other words, it looks at how much professional development teachers are actually receiving. Diversity of participation is measured in the number of different types of professional development activities undertaken during the 12-month period prior to the survey (see Box 4.1). Intensity of participation is measured by the average number of teachers' days during the 12-month period prior to the survey. Some empirical evidence shows a positive relationship between the total number of hours of professional development and students' achievement gains (see Yoon et al., 2007). Nevertheless, it must be emphasised here that intensity of participation is not equivalent to quality of professional development.

To better understand factors related to the intensity of participation in professional development activities and gain insight into potential policy making, TALIS 2013 expands on the reporting done in the first cycle of TALIS, in 2008, on the intensity of professional development participation. TALIS 2013 starts by asking teachers about various activities, ranging from more organised and structured to more informal and self-directed learning, all of which are listed in Box 4.1 and Table 4.9. The type of professional development activity most often mentioned was attending courses or workshops, with 71% of teachers on average reporting that they participated in this activity during the survey period. Indeed, in virtually all countries, this development activity was most frequently reported, with a participation rate around 80% in several countries and greater than 90% in Malaysia, Mexico and Singapore.

After courses and workshops, the most frequently reported activities on average are attending education conferences or seminars (44%) and participation in a teacher network (37%). The least common types of professional development activities were observation visits to businesses or other organisations (13%) and in-service training courses at these same organisations (14%).<sup>12</sup> However, there are some interesting patterns emerging across countries:

- **Courses and workshops:** Participation rates in general are quite common, except for the cases of Italy (51%), Romania (52%) and particularly the Slovak Republic (39%).



- **Education conferences and seminars:** More than two-thirds of teachers report participating in this activity in Croatia and Alberta (Canada) (79% and 74%, respectively). However, participation was 25% or less in the Czech Republic (22%), France (20%), the Slovak Republic (25%), Spain (24%) and Flanders (Belgium) (23%).
- **Observation visits to other schools:** Participation rates are less than 20% on average. However, more than half of the teachers in Iceland, Japan and Latvia report undertaking observation visits to other schools. This contrasts with reported participation rates in Denmark (6%) and the Slovak Republic (4%).
- **Observation visits to business premises:** Fewer teachers report participation in observation visits to businesses (13% on average). The country in which the most teachers report participation is Portugal (39%).
- **In-service training courses in business premises, public organisations and non-governmental organisations:** Brazil has the highest participation rate, 38%, in contrast to countries such as France or Italy, where participation is around 3%.
- **Qualification programmes:** Bulgaria has the greatest participation rate (almost one-half), but this area was much less a feature of teachers' professional development in Croatia, France and Japan (6% in all three countries).
- **Participation in a network:** Nearly two-thirds of teachers report engaging in this activity in Croatia and Alberta (Canada) (63% in both), but it was much less common in the Czech Republic (17%), France (18%) and Portugal (19%).
- **Individual or collaborative research:** Almost one-half of teachers (49%) participated in this activity in Mexico, Abu Dhabi (United Arab Emirates) and Alberta (Canada). This contrasts with Finland, where only 8% of teachers report engaging in this kind of professional development.
- **Mentoring and peer observation as part of a formal school arrangement:** More than half of teachers in Singapore (65%), Abu Dhabi (United Arab Emirates) (61%), England (United Kingdom) (57%) and Korea (53%) report having participated in this activity. The country with the lowest reported participation was Finland, where only 5% of teachers said they engaged in this activity in the past 12 months.<sup>13</sup>

Box 4.9 presents more information about the development of teachers in Finland.

#### Box 4.9. **Teacher development in Finland**

In Finland, professional development of teachers is seen as a comprehensive process, which begins with initial teacher education. Teacher education has been available in universities since 1971, and a Master's degree is a requirement, including a Master's thesis. This kind of teacher education leads to teachers becoming reflective professionals who actively develop their own work and professional skills and methods, as researchers do, having had this research-based initial education.

Finland does not have a nationally organised induction system. Education providers and individual schools have autonomy over arranging support for new teachers, and therefore there are notable differences between schools in ways of implementing induction. However, there is awareness of the increasing need for support for new teachers, and already many different applications of mentoring practices are in place. A specific model of peer-group mentoring has been developed and is being disseminated by the Finnish Network for Teacher Induction ("Osaava Verme"), which is part of a seven-year national Osaava programme (2010-16) funded by the Ministry of Education and Culture. The objective of the programme is to motivate education providers and individual institutions to take greater responsibility and a proactive approach to their own staff development activities with the help of networking activities and mutual co-operation.

Source: Ministry of Education, Finland, 2014.

Figure 4.8 shows both the type and the intensity of participation for all types of professional development activities. On average, of all the types of professional development, teachers report spending the greatest number of days in courses and workshops (eight days). There is wide variation both between countries and, in some cases, within countries in the number of days spent on this type of activity, as shown in Figure 4.9. This figure shows the number of days reported by teachers in the 25th to 75th percentile. There is much wider variation in the reported number of days in Korea, Mexico, Romania and Spain than in other countries.



■ Figure 4.8 ■

### Professional development recently undertaken by teachers, by type and intensity

Participation rates and average number of days for each type of professional development reported to be undertaken by lower secondary education teachers in the 12 months prior to the survey

	Percentage of teachers who participated in the following professional development activities in the 12 months prior to the survey	Average number of days of participation among those who participated
Courses/workshops	71%	8
Education conferences or seminars where teachers and/or researchers present their research results and discuss educational issues	44%	4
Observation visits to other schools	19%	3
In-service training courses in business premises, public organisations or non-governmental organisations	14%	7
Observation visits to business premises, public organisations or non-governmental organisations	13%	3
Participation in a network of teachers formed specifically for the professional development of teachers	37%	
Individual or collaborative research on a topic of interest to the teacher	31%	
Mentoring and/or peer observation and coaching, as part of a formal school arrangement	29%	
Qualification programme (e.g. a degree programme)	18%	

Items are ranked in descending order for each block, based on the percentage of teachers who report having participated in professional development activities in the 12 months prior to the survey.

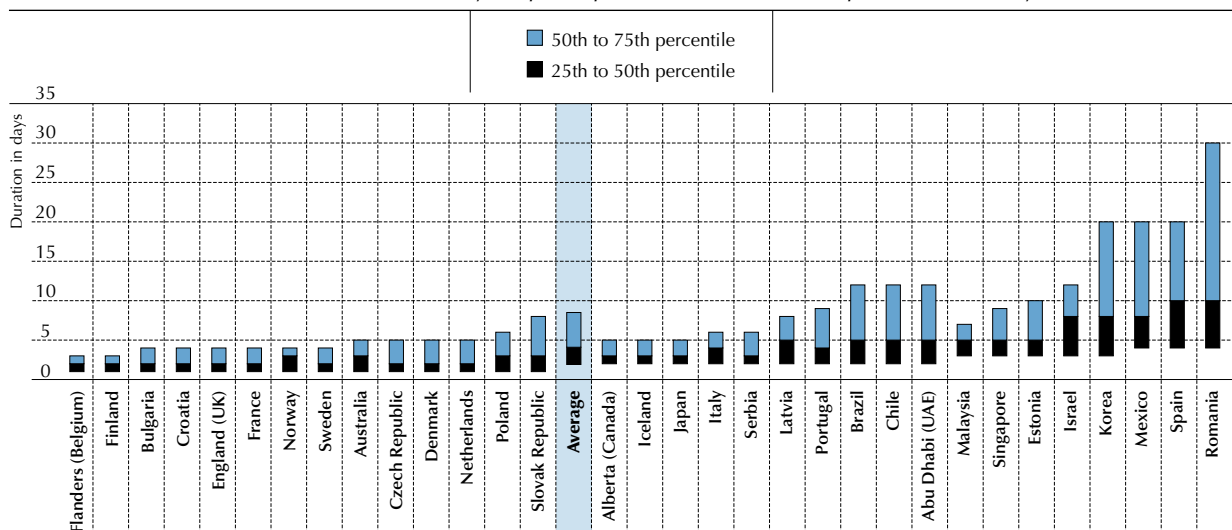
Source: OECD, TALIS 2013 Database, Tables 4.9 and 4.9.Web.

StatLink <http://dx.doi.org/10.1787/888933041554>

■ Figure 4.9 ■

### Professional development recently undertaken by teachers, by intensity of participation in courses and workshops

Percentiles of lower secondary education teachers who report having participated in courses/workshops based on the number of days of participation in the 12 months prior to the survey<sup>1</sup>



1. Percentiles presented in this figure are only for teachers who participated in courses/workshops in the 12 months prior to the survey. For example, in Romania 25% of teachers who participated in courses/workshops in the 12 months prior to the survey reported spending between 10 to 30 days on this type of professional development activity. Another quarter of teachers reported spending between 4 to 10 days on this activity over the same period. Countries are ranked in ascending order, based on the 25th percentile of number of reported days of participation among teachers who participated in courses/workshops.

Source: OECD, TALIS 2013 Database, Table 4.9.Web.

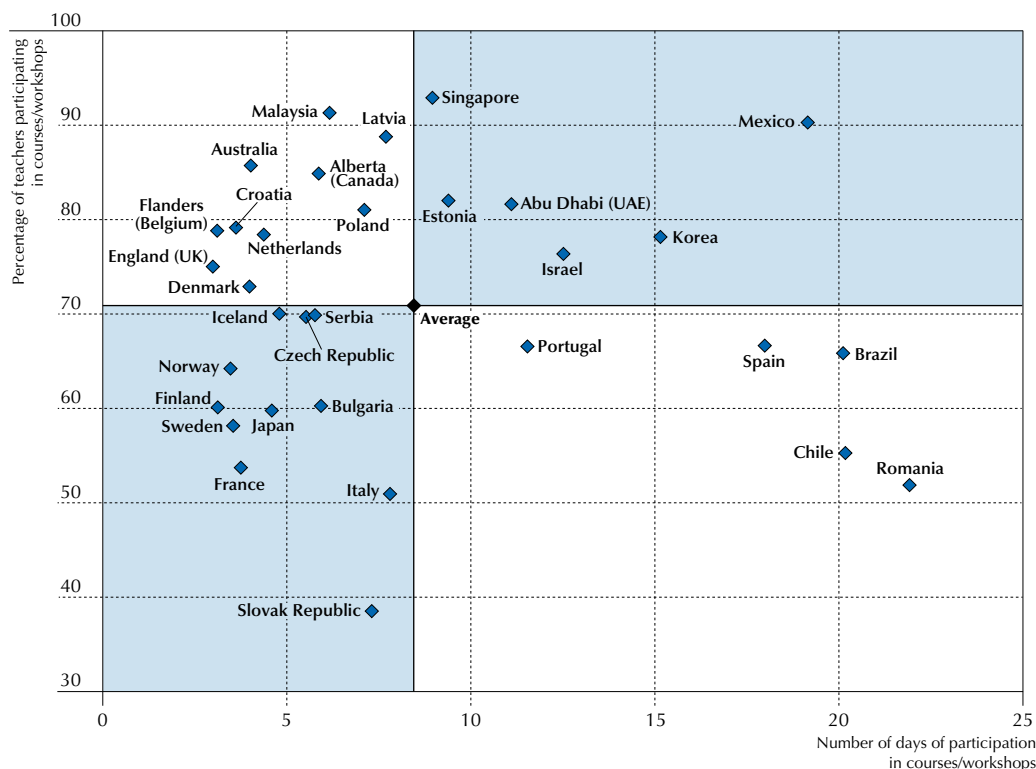
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Figure 4.10 shows the system-level relationship between the level and intensity of participation in courses and workshops, the professional development activity with the highest participation rates on average. Some interesting contrasts become apparent. First, countries found in the top-right quadrant in the figure are those countries where both the intensity and the level of participation are above the TALIS average. As in TALIS 2008, Mexico particularly stands out in this respect, with about 90% of Mexican teachers reporting that they have used this professional development activity for an average of 19 days in the past 12 months. At the other extreme, countries in the lower-left quadrant of the figure are those countries where teachers report lower participation rates and fewer days of professional development. In particular, teachers in France, Italy, the Slovak Republic and Sweden report using this activity in a less-intensive way (reported participation below 60% and average number of days below the average of nine). Finally, in countries such as Brazil, Chile and Romania, the participation is low, but the intensity of those participating is particularly high, with 20 days or more of reported participation. In contrast, countries in the upper-left quadrant show higher reported participation rates than average but a lower number of days of professional development.


■ Figure 4.10 ■

### Professional development recently undertaken by teachers in days

Percentage of lower secondary education teachers who report having participated in courses/workshops in the 12 months prior to the survey and the number of reported days they participated in courses/workshops over the same period



Source: OECD, TALIS 2013 Database, Table 4.9.Web.

StatLink  <http://dx.doi.org/10.1787/888933041592>

To better understand factors related to the diversity of participation in professional development activities and provide insight for potential policy development, a logistic model for each country was estimated. In this analysis, the diversity of participation is measured by examining the variety of activities teachers report having participated in. This variety is defined as teachers participating in three or more different professional development activities, among the nine activities identified in Box 4.1.<sup>14</sup> This participation is related to teachers' past participation in formal induction activities. Figure 4.11 shows the country-level predicted effect of teachers' reported past participation in induction programmes on their probability of reporting that they participated in three or more different types of professional development activities over the past 12 months (compared with those teachers who report having participated in two types of activities or less).<sup>15</sup>





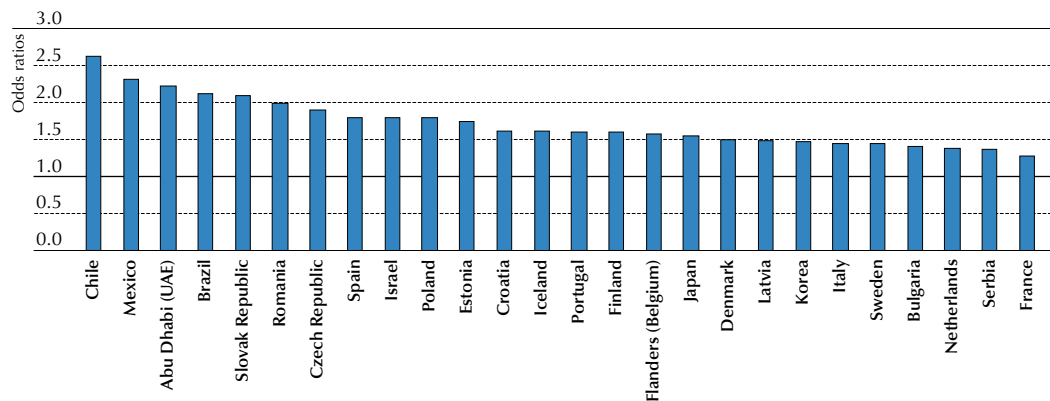
For the 26 countries and economies illustrated, teachers who report having participated in induction programmes are more likely to report participating in three or more different types of professional development activities. This is especially apparent in Brazil, Chile, Mexico, the Slovak Republic and Abu Dhabi (United Arab Emirates), where teachers who participated in induction programmes are at least twice as likely to report this.

Although the results should be viewed with caution,<sup>16</sup> the significant positive relationships shown in Figure 4.11 could be an indication that promoting induction programmes is an instrument to encourage teachers' future participation in professional development activities. Similarly, and from the teachers' perspective, being involved in induction activities might spark teachers' interest in remaining up to date through further learning opportunities.

■ Figure 4.11 ■


### Predicted effect of formal induction programme participation on professional development participation

*Probability of participation in three or more professional development activities for lower secondary education teachers who report having participated in a formal induction programme versus teachers who report not having participated in such programmes<sup>1</sup>*



1. Countries for which the odds ratio is not statistically significant at 5% or where data are representing less than 5% of the cases are not presented in this figure. Countries are ranked in descending order, based on the predicted effect of having participated in any induction programme on the reported number of professional development activities.

Source: OECD, TALIS 2013 Database, Table 4.30.Web.

StatLink  <http://dx.doi.org/10.1787/888933041611>

Thus, the TALIS data highlight the importance of teachers' participation in formal induction programmes not only for its potential impact on teachers' decision to act as mentors to new teachers (see previously) but also for its potential influence on teachers' future participation in a wider variety of professional development activities. The effects vary between countries, suggesting that the ways in which induction and professional development policies are structured within each country and the kinds of support provided for these programmes are important factors to consider. Moreover, a number of other factors that are not measured by TALIS are likely playing an important role in these relationships, such as teachers' motivation and interest in participating in these types of activities.<sup>17</sup>

TALIS 2008 found that there was not a strong relationship between the presence of induction programmes in schools and the extent of teachers' professional development (OECD, 2009). The results presented in this chapter do not contradict that finding because the present analysis is focused on participation in formal induction rather than on the availability of formal induction programmes as a predictor of participation in professional development. This variable, measured at the individual level, better captures individual decisions of teachers. Furthermore, it could also be the case that teachers participated in a formal induction programme in a different school than the one where they are currently working, so the effect of availability of induction programmes cannot be properly evaluated here.

## TEACHERS' PERCEPTIONS ABOUT THE EFFECTIVENESS OF THEIR PROFESSIONAL DEVELOPMENT

Data on teachers' perceptions about the positive impact of their professional development are presented in Table 4.10 and Figure 4.12 (see also Table 4.10.Web). TALIS asked teachers whether their professional development covered each of 14 specific topics (such as pedagogical competencies in teaching the subject field, student evaluation and assessment

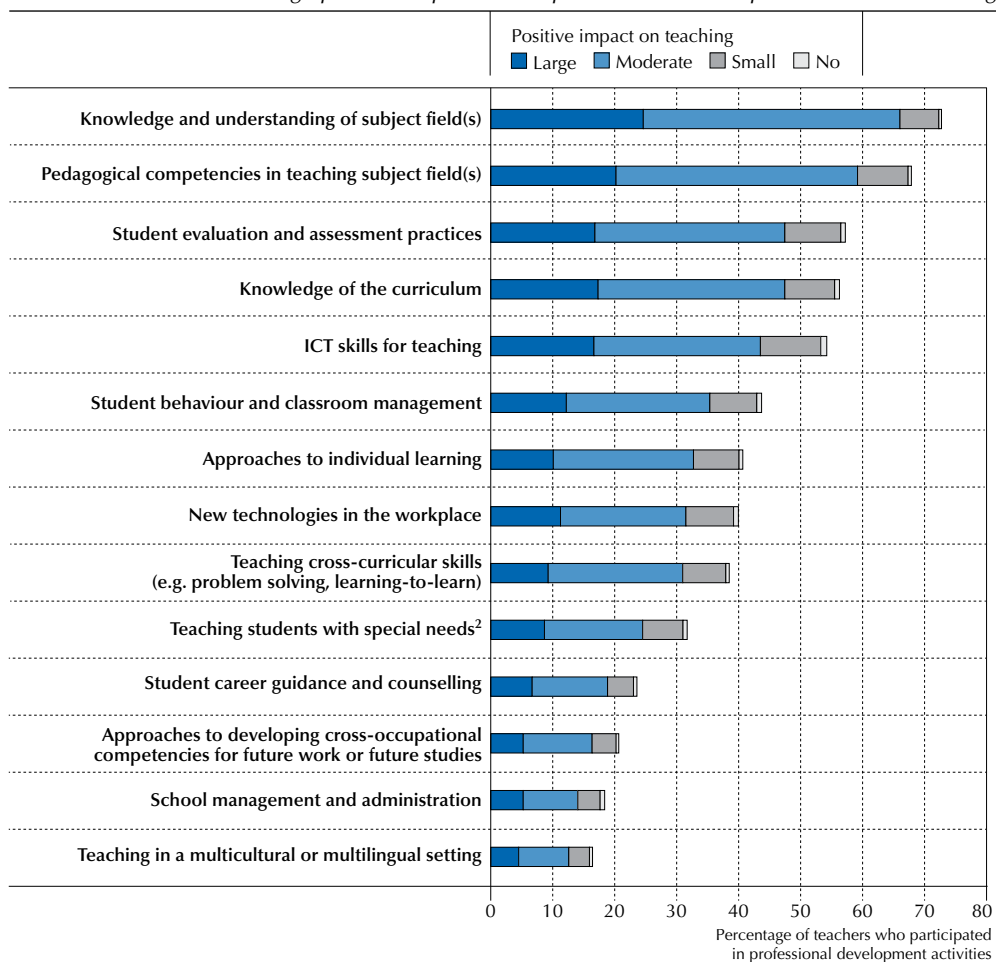
practices, approaches to individual learning and teaching students with special needs) and if so whether it had a positive impact on their teaching. This self-reported measure of effectiveness is important because teachers' perception of the effectiveness of certain professional development activities may affect their future participation in such activities.

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

■ Figure 4.12 ■

### Content and positive impact of professional development activities

Percentage of lower secondary education teachers who report having participated in professional development with the following content in the 12 months prior to the survey and who report a moderate or large positive impact of this professional development on their teaching<sup>1</sup>




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

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

Items are ranked in descending order, based on the percentage of lower secondary education teachers who report having participated in this professional development activity.

Source: OECD, TALIS 2013 Database, Tables 4.10 and 4.10.Web.

StatLink  <http://dx.doi.org/10.1787/888933041630>



Specifically, Figure 4.12 shows that larger proportions of teachers on average report having undertaken professional development that focused on their knowledge and understanding of their subject field (73%) and on their pedagogical competencies in teaching their subject field (68%). In contrast, fewer teachers report having taken part in professional development that focused on approaches to developing cross-occupational competencies for future work or studies (21% on average), on teaching in a multicultural setting (16% on average) or on school management (18% on average). In almost all participating countries, of the various contents of professional development, teachers are most likely to report that content that focuses on their knowledge and understanding of their subject field and on their pedagogical competencies for teaching their subject field has a moderate or large positive impact on their teaching (on average, 91% and 87% of teachers who participate in such professional development report this, respectively). The professional development activities that lower proportions of teachers (albeit still more than three-quarters of teachers on average) identified as having a positive impact on their teaching are those related to school management (76%), teaching students with special needs (77%) and teaching in a multicultural or multilingual setting (77%).

These results highlight that although most teachers view their professional development in all these areas to be helpful in improving their teaching, professional development that focuses on content and pedagogical knowledge in the teachers' subject field – the content focus of the professional development in which they participate the most – seems to be particularly helpful to teachers, and teachers are actively seeking these types of development opportunities.

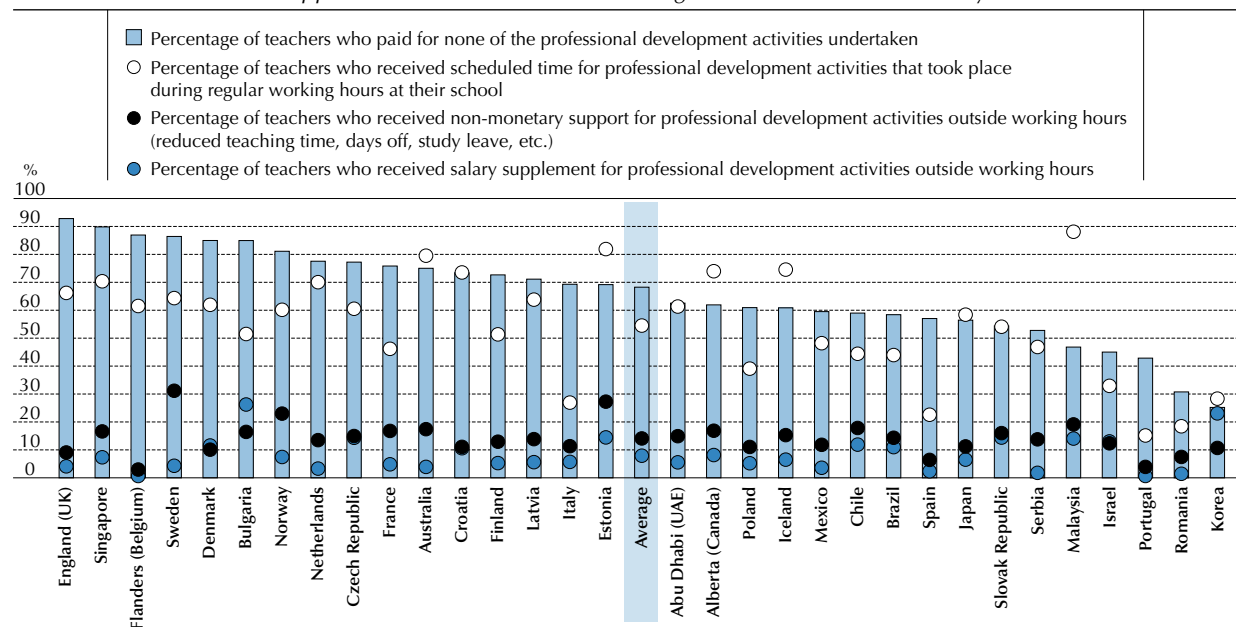
### HOW TEACHERS' PROFESSIONAL DEVELOPMENT IS SUPPORTED

The level and intensity of participation in professional development activities are in part a function of the types of support that teachers receive to undertake them (Avalos, 2011; Jurasaitė-Harbišon and Rex, 2010). Support can take many forms, and the TALIS questionnaire asked teachers about forms of support ranging from scheduled time for activities to a salary supplement to other non-monetary support. TALIS distinguished between financial support (mentioned previously) or salary supplements for undertaking these activities and non-monetary support for activities outside working hours (reduced teaching time, days off, study leave, etc.).<sup>18</sup> Figure 4.13 presents data on how teachers report that their professional development is supported. In most participating countries, financial measures are the most common forms of support given to teachers for professional development, followed by scheduled time for activities taking place at the school during working hours.

■ Figure 4.13 ■

#### Professional development participation by level of personal cost and support

Percentage of teachers who report paying for none of the professional development activities undertaken and level of support received for the three following elements in lower secondary education



Countries are ranked in descending order, based on the percentage of teachers who report paying for none of the professional development activities undertaken.

Source: OECD, TALIS 2013 Database, Tables 4.6 and 4.11.

StatLink <http://dx.doi.org/10.1787/888933041649>



Indeed, in most countries, the percentage of teachers who claimed that they paid for none of the professional activities they undertook is above 50%. When teachers engage in professional development without bearing the burden of paying for it, this might reflect the monetary support they enjoy from various sources (e.g. the ministry, schools, external organisations, etc.). There are some countries and economies – Estonia, Iceland, Malaysia and Alberta (Canada) in particular – that focus more on an alternative method of support, such as scheduling time for activities to take place during regular working hours at the school.

The following sections examine the different types of support based on the data shown in Table 4.11. The first important message from these data, when examined in relation to the level of participation in professional development activities shown in Table 4.6, is that those countries or economies with higher participation rates also exhibit high levels of both monetary and non-monetary support. The best examples are Alberta (Canada) and Singapore, where more than 97% of teachers report participating in professional development activities, and, at the same time, more than 70% indicate having access to support in the form of scheduled time and more than 17% say they have access to other forms of non-monetary support.

### **Scheduled time**

More than half of teachers on average received scheduled time to take part in development activities. However, the percentage varies substantially across countries, from well over three-quarters in Australia (79%), Estonia (82%) and Malaysia (88%), to less than 20% in Portugal (15%) and Romania (18%).

### **Financial support: Salary supplements**

Salary supplements are not a common means of support for professional development, with only 8% of teachers on average receiving them for activities they had taken part in during the survey period. This is a somewhat more common means of support in Bulgaria (26%) and Korea (23%), but in a lot of countries this policy is practically unused: It is less than 2% in Portugal, Romania, Serbia and Flanders (Belgium).

### **Non-monetary support**

In addition to formal non-monetary support of professional development in the form of scheduling time for activities to take place during regular working hours at school, TALIS also asked teachers whether they received non-monetary support (such as reduced teaching, days off, study leave, etc.) for activities outside working hours. Table 4.11 indicates that this is not a common practice, although it is generally more widespread than providing salary supplements. On average across participating countries, 14% of teachers who participated in professional development over the 12 months prior to the survey claim to have received this type of support. These results are very similar across countries, with the exceptions of Estonia and Sweden, which have approximately double the average percentage of all other countries (27% and 31%, respectively). In contrast, only 4% of teachers in Portugal and 3% of teachers in Flanders (Belgium) received this type of non-monetary support.

Table 4.11 also shows that some countries have relatively high levels of all three forms of support (teachers in Estonia, Malaysia and Alberta [Canada] report above average support in all three measures). In contrast, the level of support that teachers report receiving in Portugal, Romania and Spain is well below average on all three measures. It is important for policy makers from all countries, but these countries in particular, to consider a variety of support and incentives (including non-monetary ones) that teachers receive to help them improve their practice throughout their career.

## **TEACHERS' PROFESSIONAL DEVELOPMENT NEEDS**

The professional development that teachers report receiving in TALIS does not always meet the needs of teachers. Teachers were asked to rate their development needs for various aspects of their work, and many teachers report needs in specific areas. Table 4.12 presents the percentage of teachers who report a high level of need in various aspects of their work.

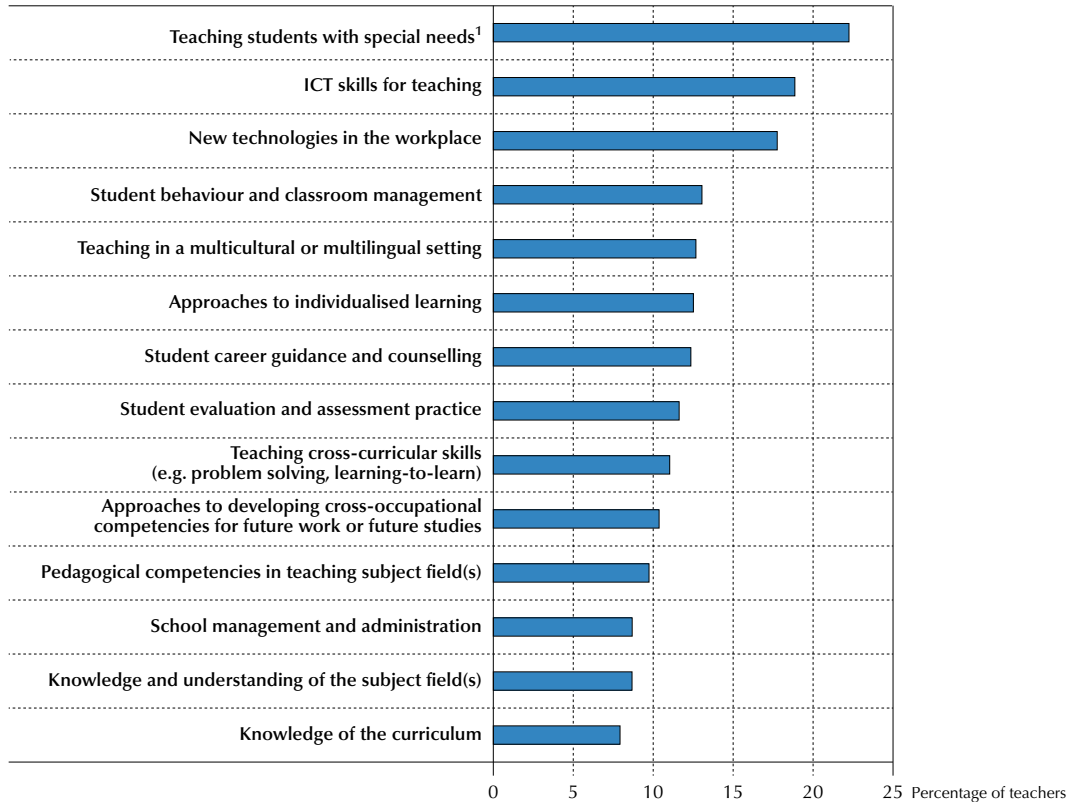
Consistent with findings from TALIS 2008 (OECD, 2009), across all participating countries, the aspect most frequently cited by teachers as an area of high development need is related to teaching students with special needs.<sup>19</sup> As highlighted in Figure 4.14, about 22% of teachers on average report that they need more professional development for this specific aspect of teaching, with 60% of teachers in Brazil and 47% in Mexico indicating needs here. As discussed in the previous section, only 32% of teachers identify having taken part in professional development that focused on teaching students with special needs (Table 4.10). Moreover, of the 14 areas of focus of professional development examined earlier, teaching students with special needs was one of the least likely on average to be identified by teachers as having a positive impact on their teaching (Figure 4.12). These findings may point to some problems with the adequacy of support provided.



■ Figure 4.14 ■

### Teachers' needs for professional development


Percentage of lower secondary education teachers indicating they have a high level of need for professional development in the following areas



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

Items are ranked in descending order, based on the percentage of teachers indicating they have a high level of need for professional development.

Source: OECD, TALIS 2013 Database, Table 4.12.

StatLink  <http://dx.doi.org/10.1787/888933041668>

### Professional development on using ICT

On average, the second and third most important professional development needs teachers report are related to teaching with information and communication technology (ICT) skills (19% of teachers) and to using new technologies in the workplace (18% of teachers), two items closely related to each other. Teachers from all TALIS countries identify these two needs to be especially important for them, and the need is even stronger for teachers in Brazil (27% and 37%, respectively), Italy (36% and 32%, respectively) and Malaysia (38% and 31%, respectively). Given that these technologies are continuously evolving and changing, the identification of this specific need by teachers may be signaling the increasing challenge for teachers and schools to fully exploit them for the benefit of teaching and learning (Drent and Meelissen, 2008).

The other needs shown in Table 4.12 are less important on average, but they nonetheless represent specific and important areas of needs in some countries. For example, in Japan and Korea, more than 40% of teachers report a high level of need for professional development on student career guidance and counseling. Furthermore, the data notably show that teachers in Japan indicate a high level of need in areas including knowledge and understanding of the subject field(s) (51%), pedagogical competencies in teaching subject field(s) (57%), student behaviour and classroom management (43%),



student evaluation (40%) and how to approach individualised learning (40%). Finally, teaching in a multicultural or multilingual setting seems not to be an important issue in European countries, but it is a significant concern for Latin American countries and Italy, where more teachers consider this an important need for professional development (46% of Brazilian teachers, 24% of Chilean teachers, 27% of Italian teachers and 33% of Mexican teachers).

Box 4.10 presents the reported needs for professional development for teachers in primary and upper secondary schools. Box 4.11 compares the needs of lower secondary teachers in 2008 and 2013 for the countries that participated in both cycles.

#### Box 4.10. **Professional development needs among primary and upper secondary teachers**

Table 4.12.a shows that compared with their lower secondary colleagues, primary (ISCED 1) teachers have a higher need for ICT skills, particularly in Denmark (23%), Mexico (24%) and Norway (25%). In addition, high percentages of teachers report a professional development need regarding teaching students with special needs in Denmark (34%) and Mexico (42%). In Mexico, the percentage of teachers with this specific need is a bit smaller among primary teachers than it is for lower secondary ones.

Table 4.12.b shows that in Denmark, Iceland, Mexico and Norway, upper secondary (ISCED 3) teachers report lower needs for ICT skills than do lower secondary teachers. It also shows fewer needs for lower secondary teachers in Denmark, Finland, Iceland, Italy, Mexico and Singapore in terms of teaching students with special needs. This difference is especially important in Denmark (17 percentage points), Italy and Mexico. Finally, in Italy, more upper secondary teachers than lower secondary teachers have indicated a demand for professional development in the area of new technologies in the workplace, while in Denmark, Iceland and Mexico, fewer upper secondary teachers have indicated so.

#### Box 4.11. **Comparing professional development needs, TALIS 2008 and TALIS 2013**

The differences between teachers' needs in 2008 and 2013 can be examined for the countries that participated in TALIS in both years (Table 4.12.c).

In general, and for countries participating in both studies, the two major areas of needs highlighted earlier (teaching students with special needs and ICT skills) seem to be less important among lower secondary teachers in 2013 than they were in 2008. Indeed, on average, the percentage of teachers identifying a need for skills to teach students with special needs is 30% in 2008 compared with 24% in 2013.<sup>20</sup> The difference is much larger in Malaysia, Norway, Poland, Portugal and Spain, where it is more than 14 percentage points. On the contrary, more secondary teachers in Denmark, Korea and Mexico identified this need in 2013 in comparison with their counterparts in 2008. The same pattern can be seen for the need for ICT teaching skills. There are, however, some exceptions, as in Iceland, Italy, Korea and the Slovak Republic. On average in participating countries, the need for professional development for knowledge and understanding of the subject field is identified less in 2013 than in 2008. The difference in the identification of this need is especially large in Italy (-18 percentage points), Malaysia (-28 percentage points), Poland (-15 percentage points) and Flanders (Belgium), where the difference is -14 percentage points.

Finally, on average for countries participating in both studies, the need for skills in teaching in a multicultural setting is about the same in terms of importance for lower secondary teachers in 2008 and 2013. However, for Brazil, Korea and Mexico, this specific need is more important in 2013 than it was in 2008 by more than eight percentage points, and this specific need is less important in 2013 than it was in 2008 in Malaysia (20 percentage points fewer teachers report this as a high level of need).

Table 4.13 presents results of the effect of two indices of professional development needs (described in Box 4.12) on participation in different professional development activities. One index measures the need for professional development for teaching for diversity (index of need for teaching for diversity, from here on), and one index measures the need for professional development in subject matter and pedagogy (index for pedagogical needs, from here on).





#### Box 4.12. **Indices of professional development needs**

To assess the level of professional development needs identified by teachers in the areas of teaching for diversity and pedagogical aspects of teaching, TALIS asked teachers to rate their level of need in the following areas:

##### **Need for teaching for diversity**

- Approaches to individualised learning
- Teaching students with special needs
- Teaching in a multicultural or multilingual setting
- Teaching cross-curricular skills
- Approaches to developing cross-occupational competencies for future work or future studies
- Student career guidance and counselling

##### **Pedagogical needs**

- Knowledge and understanding of my subject field(s)
- Pedagogical competencies in the specific teacher field(s)
- Knowledge of the curriculum
- Student evaluation and assessment practice
- Student behaviour and classroom management

See Annex B for more information about the construction and validation of these indices.

Table 4.13 shows the significant relationships between these two indices and participation in seven different professional development activities per country.<sup>21</sup> The first column presents the significant effects of these two indices on an individual teacher's decision to participate in courses, workshops and conferences. A plus (+) sign indicates an increase in the likelihood of participating in courses, workshops and conferences. In 23 countries, pedagogical needs show a significant and positive relationship with this decision. In other words, in these countries, teachers are more likely to participate in courses, workshops and conferences if they have reported a high level of professional development need (on the pedagogical scale). The reported need for professional development for teaching for diversity is also associated with this decision in 17 countries.

The second column in Table 4.13 captures professional development participation in observation visits to other schools, business premises, public organisations and non-governmental organisations. For this specific activity, the importance of the reported need for professional development for teaching for diversity seems to be large: In 17 countries this need is related to higher participation rates related to observational visits. (See Table 4.13.Web for detailed results.) The index for pedagogical needs seems to be less important in affecting participation decisions for this professional development activity.

The same result is obtained when analysing the effect of these two indices on the probability of participating in training courses, mentoring and/or peer observation and coaching: The effect of the reported need for teaching for diversity is more important as a determinant for choosing these professional development activities, as shown in Table 4.13.Web. The same can be seen with the probability of participating in a network of teachers and in engaging in individual or collaborative research. Finally, it is interesting to note that the index of need for teaching for diversity shows a small but significant negative effect for Brazil and Mexico in some of the activities analysed, which means that in these cases, a high level of need is associated with lower participation rates.

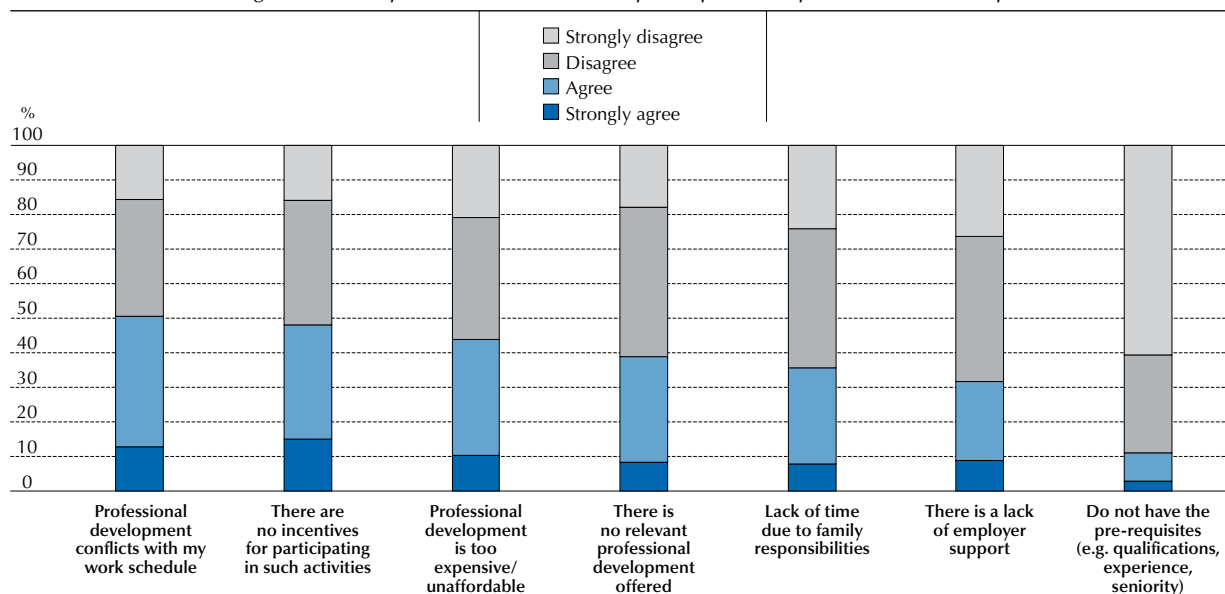
## **BARRIERS TO PARTICIPATION**

To better understand participation in professional development and provide insight into potential policy implications, TALIS asked teachers to indicate barriers to their participation. The average responses from this question are presented in Table 4.14 and Figure 4.15. Across participating countries, the reasons that teachers cited most commonly as barriers to professional development are a conflict with the work schedule (51% of teachers) and a lack of incentives for participating in professional development (48%).

■ Figure 4.15 ■

**Barriers to professional development participation**

Percentage of lower secondary education teachers who “strongly disagree”, “disagree”, “agree” or “strongly agree” that the following elements represent barriers to their participation in professional development activities



Barriers to teachers' participation in professional development activities are ranked in descending order, based on the percentage of teachers who “agree” or “strongly agree” that the element represents a barrier to their participation in professional development activities.

Source: OECD, TALIS 2013 Database, Tables 4.14 and 4.14.Web.

StatLink <http://dx.doi.org/10.1787/888933041687>

**Conflict with work schedule**

As mentioned above, the most commonly reported barrier to participation in professional development activities is a conflict with work schedules. As the data in Table 4.14 show, this is reported by three quarters or more of the teachers in Japan (86%), Korea (83%) and Portugal (75%). On the contrary, fewer teachers in Croatia (22%), Latvia (29%) and Serbia (27%) indicate that conflicts with work schedules are barriers to participation in professional development. This might be explained, at least for teachers from the last two countries, by the high percentage of teachers receiving support through scheduled time during regular working hours: 73% in Croatia and 64% in Latvia (Table 4.11). However, across all countries there is no distinct relation between these two variables. For instance, about 58% of teachers in Australia report that a conflict with their work schedule is a barrier for participating in professional development, yet 79% report that they received scheduled time for professional development. This situation might indicate only that the scheduled time was insufficient or not very well aligned with the types of professional development that teachers wanted.

**Lack of incentives for participation**

TALIS data suggest that the problem of not receiving enough incentives for participating in professional development is a substantial issue for teachers in Italy (83%), Portugal (85%) and Spain (80%) (Table 4.14). This is important because participation rates in professional development are below average in Spain and at average in Portugal (Table 4.6). Given that a higher percentage of teachers in these two countries reported paying for at least some of their professional development activities, this could help explain their low participation rates (Figure 4.6). This should be of special concern from a policy perspective in these countries.

**Participation is too costly**

A substantial proportion of teachers consider professional development activities to be too expensive (44% on average), which is also very relevant from a policy perspective. As mentioned previously, there is a positive relationship between the percentage of teachers who pay for none of their professional development activities and their participation rate (Figure 4.6). This is especially relevant for teachers in Chile (73%) and Portugal (81%). In contrast, this seems to be much less important in Singapore (20%) and Flanders (Belgium) (17%).



## Other barriers

Finally, teachers not having access to a relevant supply of professional development activities in their country is also a barrier that deserves more attention from a policy perspective. Although on average fewer teachers (by 12 percentage points) report this as a barrier compared with work schedule conflicts, this issue is important in Chile (64%), Italy (67%), Portugal (68%) and Spain (61%). These are countries where lower secondary teachers, especially in public schools (Table 4.8), actually participated in professional development activities less often than average during the survey period. This might be interpreted as evidence of the association between the perceived lack of suitable professional development activities and the participation rates of teachers.

## SUMMARY AND MAIN POLICY IMPLICATIONS

This chapter has reviewed current patterns of availability and participation in induction, mentoring and professional development activities for lower secondary education teachers. Teachers' continuous professional development is at the core of most education policy debates because it has been found to be highly relevant both for improving educational performance and effectiveness and for enhancing teachers' commitment to their work (Angrist and Lavy, 2001). This study and other references cited earlier in this chapter may be inspiring many policy makers who support the relevance of career-long opportunities for professional development.

As shown in Chapter 2, new teachers often report feeling unprepared for various aspects of their work, even after completion of an initial teacher preparation programme. Professional development and support is necessary not only to fill in the gaps in the skill sets of new teachers, but also to continue to develop the expertise of teachers throughout their career. Teachers are meant to develop students as lifelong learners. To achieve this lofty goal in today's rapidly changing world, teachers must be continuously learning themselves. Professional development at all points in a teacher's career is necessary to keep the teacher up to date with the changing research, tools, practices and student needs that teachers face with every passing year.

The TALIS data provide findings that have implications for policies related to professional development at all stages of a teacher's career.

### ***Encourage schools to offer formal induction programmes for new teachers and urge teachers to attend***

Induction programmes for new teachers have a stronger influence on teachers' future behaviour than previously realised. TALIS data show that in many countries, teachers who report participating in a formal induction programme in the past are more likely to have a higher level of participation in professional development, to the extent that they participate in three more professional development activities than teachers who did not attend formal induction programmes. In other words, those teachers who start their first teaching roles with access to development in the form of induction move on to take advantage of a variety of induction opportunities. Further, participation in an induction programme during a teacher's first employment is also positively related to a teacher's decision to help other teachers by acting as a mentor.

TALIS data also indicate that in many countries, induction programmes are readily available and yet teachers are not participating.<sup>22</sup> It is clear that it is important not only for schools to offer formal induction programmes to their teachers but for teachers to attend. Policy makers and school leaders should seek to understand what is preventing teachers from attending such programmes, when they are available, and should ensure that programmes are offered for all new teachers. Some additional examination is needed into what content is most effective in such programmes, since, as this chapter indicates, early support activities for teachers may have significant long-term influence over their future professional development activities. Indeed, participation in an induction programme during a teacher's first employment is positively related not only to the later decision to help other teachers by acting as a mentor but also to more intensively undertake professional development activities.

### ***Support teachers' participation in mentoring programmes at all levels of their careers***

Clear evidence shows that teachers with mentoring support have higher student achievement gains (Rockoff, 2008). However, TALIS 2013 shows that, on average for all countries, one-quarter of teachers work in schools where principals report that there is no mentoring programme, with some countries showing larger percentages of no access. Further, TALIS findings suggest that even when mentoring is available at schools, not all teachers take part in these opportunities. Mentoring provides teachers with a way to build relationships with colleagues (further discussed in Chapter 7) and to collaborate to improve their teaching practice. It is an inexpensive form of professional development that is ongoing and can take place anytime within the teacher's own school context. Policy makers should provide schools with support to develop mentoring programmes, which might include the latest research on best practices



for successful implementation. School leaders should provide teachers with time and arrange for successful pairings of teachers who have common subject areas. And teachers should participate, both as mentors and as recipients, regardless of their level of work experience (it might be that a young teacher could mentor a more-experienced teacher in the use of ICT, for example).

### ***Ensure availability of and participation in professional development for all teachers***

TALIS looks at teachers' participation in a broad range of professional development activities, and the data show that on average across participating countries almost 90% of teachers report taking part in some sort of activity. However, in some countries as many as a quarter of teachers report not participating in any professional development activities in the past year.

The level and intensity of teachers' participation in professional development activities are influenced by, among other factors, the types of support that teachers receive to undertake them. Some countries provide relatively high levels of support for teachers, including paying any necessary fees, scheduling time for training during a teacher's school day and other types of non-monetary support. In other countries, this kind of support is not available to teachers.

The solution to these issues seems simple: If it is a priority to policy makers and school leaders that teachers take part in professional development in order to improve their teaching, then support (both financial and otherwise) that enables all teachers to do this needs to be provided. However, this is not as easy as it sounds. Because a school leader will have a full staff of teachers who all need development in a given year, the budget and time away from class required to pursue these development opportunities may be stretched thin. In addition, while in some areas there might be a surplus of professional development offerings available, teachers might not always be able to identify the most appropriate, highest-quality activity that fits both their needs and their schedule.

This might be a further opportunity for schools to develop and use mentoring programmes or other within-school or between-school development opportunities for teachers. Creating a professional development plan that is tied to a teacher's individual needs for development might also help teachers pinpoint the best offerings for them (see Chapter 5). Encouraging participation in professional development activities that boost collaboration among teachers might not only provide teachers with new skills, but could also help build relationships between teachers in or outside the school (see Chapter 7).

### ***Remove barriers to teachers' participation in professional development***

Finally, the main reasons that teachers report for not participating in professional development activities are a conflict with their work schedule and the absence of any incentives for participating in such activities. In many countries, a significant number of teachers also report that they simply do not have access to professional development offerings relevant to their needs. Any one of these barriers could explain lower participation rates of professional development in specific countries. If teachers do not have the time or flexibility in their work schedule or if there are no offerings available, it will be very difficult for them to participate. The absence of incentives for participation, such as monetary or non-monetary rewards, is equally serious. Incentives could also include recognition in front of colleagues or a connection to a teacher's development plan that might further motivate them to seek professional development. Teachers' time is valuable, especially when it takes them away from their most important role, teaching their students. Teachers may need extra encouragement to understand and identify professional development activities that can provide the most benefit to their work.



## Notes

1. See Chetty, Friedman and Rockoff (2011) for a brief review of the debate about the best way to measure and improve teacher quality.
2. See Broad and Evans (2006) for a large set of examples of both formal and informal professional development activities.
3. See also Helms-Lorenz, Slof and van de Grift (2012) for a more recent study with similar findings.
4. Reasons other than teacher interest or willingness or lack of understanding of the benefits of mentoring may be underlying low participation rates. For example, in some cases, mentoring programmes may be available only for teachers newly appointed on permanent contracts. It is possible, for example, that low teacher turnover (perhaps due to economic downturn) has led to fewer permanent contract appointments in recent years, thus explaining low availability and low participation in mentoring.
5. Individual logistic models have been estimated for each country to identify the basic determinants of the teacher's probability of acting as a mentor. See Box 2.5 in Chapter 2 for a basic explanation of these discrete choice models and Annex B for more technical information about these analyses.
6. A more general analysis of the main variables associated with teachers acting as mentee found that past participation in induction programmes was an important factor. This type of analysis might open a possible further avenue of research.
7. There might be other factors, such as teachers' motivation and interest in participating in activities aimed at further learning and development of their profession, that might also influence both induction participation and acting as a mentee. Unfortunately, TALIS data do not provide these types of additional control variables. Therefore, results presented here must be interpreted within these limitations.
8. For example, Rivkin, Hanushek and Kain (2005) found that up to three-quarters of school effects on student outcomes can be explained by teacher effects.
9. In TALIS 2008, the reference period for participation in professional development activities was 18 months. However, during the TALIS 2013 field trial phase, information on participation was collected from teachers in two segments: for the last 12 months and for the previous 6 months. These data showed no significant difference in overall participation rates over the last 12 months and over the wider 18-month window. It was determined that the results for participation in professional development would be comparable despite the different reference periods. The reference period used in the main survey was therefore changed to the "last 12 months" in the TALIS 2013 teacher questionnaire.
10. Variables other than teacher and school characteristics, such as the existence of compulsory participation policies at country level, might affect teachers' participation in professional development activities. Unfortunately, TALIS data do not provide these types of variables. Therefore, results in this section must be interpreted with this limitation in mind.
11. This difference as it is shown in Table 4.21.Web is statistically significant for most of the countries analysed.
12. A possible explanation for this pattern may be related to which type of activities teachers consider to be most useful. See later sections for analyses on this issue.
13. Some discrepancies might arise between the participation rates in mentoring shown in Tables 4.9 and 4.3. These differences might be due to the period of time to which each of them refer: Participation rates shown in Table 4.3 refer to current mentoring activities that teachers are involved in, whereas those presented in Table 4.9 refer to mentoring activities teachers participated in during the 12-month period prior to the survey. In addition, Table 4.9 includes "peer observation and coaching" together with mentoring activities.
14. The median in the distribution across teachers in all countries participating in TALIS 2013 is three, that is, 50% of teachers participated in three or more professional development activities during the 12-month period prior to the survey. Furthermore, additional models have been estimated to analyse the number of activities teachers participate in. The results from these models show that the basic difference, in terms of the differential effects of most of the explanatory variables used, is between one to two and three or more activities. This is the main reason why three was chosen as the cut-off point defining variety in participation.
15. As in Figure 4.5, this figure shows the odd ratios of the probability of participating in three or more professional development activities, comparing those teachers who have participated in a formal induction programme in the past with those with no participation in such programmes. The estimated coefficient for this variable is presented in Table 4.31.Web.
16. As noted in several places in the chapter, no causality can be established with cross-sectional data such as that provided by TALIS (see Box 2.5 in Chapter 2 for further explanation).
17. The results remain qualitatively similar for the relationship highlighted in Figure 4.11 when some proxies for teachers' motivation (individual job satisfaction and a measure of intensive involvement in planning or preparing lessons) are also included in the estimated model.
18. There might be other types of non-monetary support, such as providing recognition, appreciation, new challenges, and access to mentors. Unfortunately, TALIS data do not provide this information.



19. As described in Table 4.12, special needs students are not well defined internationally but usually cover those for whom a special learning need has been formally identified because they are mentally, physically or emotionally disadvantaged.
20. This might be an especially surprising result considering that teachers teaching only special needs students in sampled schools were excluded from TALIS in 2008 but not in 2013.
21. These participation decisions are estimated by means of a logit model (see Table 4.13.Web for the regression coefficients). These models are controlling for the individual and school characteristics described in Table B2.5 in Annex B. The results are almost unchanged when teacher's motivation, support and perceived barriers to participation are also taken into account with proxy measures.
22. This imbalance between availability and participation may also be due to the gap between the present day and the time at which some teachers, especially older ones, participated in this type of programme.

#### A note regarding Israel

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

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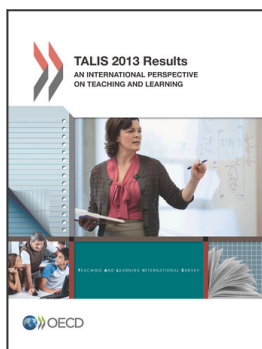
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