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Teachers and their Schools

This chapter provides background information about the teachers surveyed as part of the OECD Teaching and Learning International Survey (TALIS) and the schools in which they work. The first part of the chapter focuses on demographic characteristics such as the age and gender of teachers, their formal education and their previous work experience. The second section of the chapter provides a profile of the schools in which teachers work, with particular emphasis on school background information, resources, composition of students at the school, the level of autonomy enjoyed at the school level and school climate. In addition, this chapter begins to look at issues of equity in education systems by examining the distribution of teachers across the systems and also provides a basis for analyses conducted in subsequent chapters of this volume.



Highlights

- Teachers who benefited from formal education that included content, pedagogy and practical components for the subjects they teach feel better prepared for their work than their colleagues whose formal education did not contain these elements.
- More than half of lower secondary teachers in all TALIS countries and economies except Japan are women, and in 22 countries two-thirds or more of teachers are women. Furthermore, several countries may face the prospect of significant teacher shortages as a result of large numbers of teachers reaching retirement age.
- More than a third of teachers work in schools where the school principal reported a significant shortage of qualified teachers. Additionally, almost half of teachers work in schools where there is a reported need for teachers of students with special needs and a need for support personnel.
- Across most TALIS countries and economies, the majority of teachers work in environments with a positive professional climate among the teaching staff. This positive climate is characterised by a common set of beliefs, mutual respect for colleagues' ideas, a culture of sharing success, high levels of co-operation between the school and the local community and the ability to have open discussions about difficulties.
- Most teachers work in schools in which there is little to no authority at the school level for making decisions related to teacher pay. In almost all countries, however, a large proportion of teachers work in schools that enjoy a high level of autonomy for establishing student disciplinary procedures or selecting the learning materials used.

INTRODUCTION

Teachers play a crucial role in education systems – they are the front-line workers responsible for engaging students and promoting their learning. It is now widely accepted that within schools, teacher- and teaching-related factors are the most important factors that influence student learning (e.g. Darling-Hammond, 2000; Konstantopoulos, 2006; Rivkin, Hanushek and Kain, 2005; Rockoff, 2004; Scheerens, Vermeulen and Pelgrum, 1989; Scheerens, 1993; Willms, 2000). As such, countries are especially interested in learning more about their own teaching workforce and making comparisons with other countries in order to develop more effective policies to improve teaching and learning. This chapter provides a profile of lower secondary teachers (referred to simply as “teachers” unless otherwise specified), looks at the extent to which they are distributed equitably across their education system and describes the schools in which they work.

The analyses presented in this chapter and Chapter 3 (on school principals and school leadership) not only provide a picture of the teaching workforce and the contextual school environment in which teachers work across TALIS countries and economies, but also set the scene for the analyses in subsequent chapters of this volume.

This chapter is divided into two main sections. The first section focuses on teacher characteristics and provides a profile of lower secondary teachers (with selected information provided for primary and upper secondary teachers). Analyses in this section focus on demographic characteristics such as the age and gender of teachers, their employment status, their formal education and their previous work experience. This chapter also looks at these characteristics in relation to how teachers are distributed across a system, in rural or urban areas or in schools deemed to be in more or less challenging environments. Profiles of school principals are examined in Chapter 3.¹

The second section of this chapter provides a profile of the schools in which teachers work, with particular emphasis on school background information, human and material resources, the composition of students at the school, school autonomy and school climate. Because TALIS focuses on teachers and teachers' working conditions, it is important to note that, as in the first cycle of TALIS, most of the tables and charts in this section and in most of the report are presented from a teacher perspective. This focus becomes particularly apparent in the second section of this chapter, where the data represent the *proportion of teachers who work in schools* with certain characteristics rather than the *proportion of schools* with certain characteristics.² In cases where the policy issue is most interesting at the school level in particular (especially in Chapter 3), analyses were performed accordingly (*proportion of schools*), and this is clearly noted under the tables in question.



WHO IS TEACHING IN LOWER SECONDARY SCHOOLS?

While some countries have staffing surveys or census information that provide a profile of teachers in the school system, the TALIS survey offers an international comparison of teacher characteristics across the participating countries and economies. Teachers were asked to provide background information on themselves, their education and work experience, their current employment status and the kind of training (if any) they received in the process of joining the teaching profession.

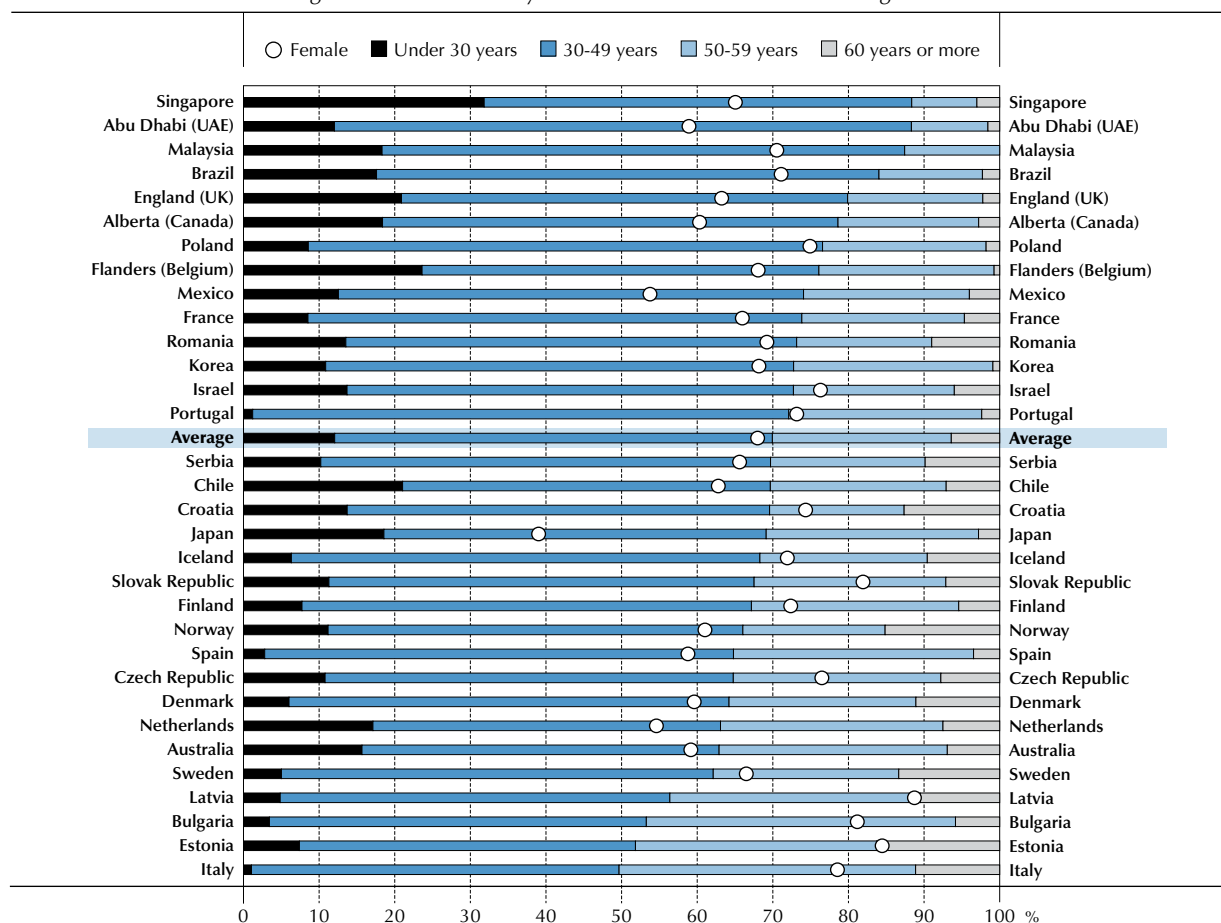
Teachers' gender and age

The demographic characteristics of teachers are of interest to policy makers and researchers in their own right. The potential impacts of gender imbalance in the teaching profession on issues such as student achievement, student motivation, teacher retention and others represent policy concerns in a number of countries where very few males are attracted to the profession (Drudy, 2008; OECD, 2005, 2009). This gender imbalance seems to be common in many regions of the world. It is most prominent in pre-primary and primary education, though the differences persist well into secondary education in many countries (OECD, 2013a; UNESCO Institute for Statistics, 2006, 2009). There is little evidence that a teacher's gender has an impact on student performance (e.g. Antecol, Eren and Ozbeklik, 2012; Holmlund and Sund, 2008), although there is some evidence that female teachers' attitudes towards subjects such as mathematics can have an impact on their female students' achievement (Beilock et al., 2009). Finally, some evidence suggests that male teachers stay in the profession longer (Ingersoll, 2001), while other research conducted in Finland suggests the opposite (Blomqvist et al., 2008).

■ Figure 2.1 ■

Gender and age distribution of teachers

Percentage of lower secondary education female teachers and age of teachers



Countries are ranked in descending order, based on the percentage of teachers aged 49 or younger.

Source: OECD, TALIS 2013 Database, Table 2.1.

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Gaining information about the age distribution of the teaching workforce is also valuable to policy makers. Some countries face important challenges related to their aging teacher workforce, with a high proportion of teachers nearing retirement age (OECD, 2009, 2013a). The age of teachers has also been found to be related to teacher attrition in schools: Attrition rates tend to be higher in the first few years of teaching and decline the longer that teachers are in the profession (OECD, 2005; Ingersoll, 2001).

Table 2.1 and Figure 2.1 examine gender and age distribution of teachers, and Box 2.1 examines data for primary and upper secondary education in the countries that implemented the survey for these teacher populations. Box 2.2 compares data from countries that also participated in TALIS 2008.

In all TALIS countries and economies, with the exception of Japan, more than half of the lower secondary education teaching workforce is made up of women. On average, 68% of all teachers are female. More than eight out of ten teachers in secondary education are female in Bulgaria (81%), Estonia (84%), Latvia (89%) and the Slovak Republic (82%). On the other side of the spectrum, fewer than six out of ten teachers are women in Australia (59%), Japan (39%), Mexico (54%), the Netherlands (55%), Spain (59%) and Abu Dhabi (United Arab Emirates) (59%).

Given concerns in many countries about an aging teacher population, it is significant that, on average, only 12% of secondary teachers are younger than 30 years, while 30% are 50 or older. The average age of lower secondary teachers in TALIS countries and economies is 43 years. Singapore has the youngest teacher workforce with an average age of 36 years while Italy has the oldest teacher population with an average age of 49 years.

Estonia and Norway have the highest proportions of teachers aged 60 or more (16% and 15%, respectively), while in a number of countries, nearly half of the teachers are 50 years or older (Bulgaria, Estonia and Italy). On the other hand, Singapore has the largest proportion of teachers aged below 30 years (32%).

Box 2.1. **Gender and age distribution of primary and upper secondary education teachers**

As shown in Table 2.1.a, the proportion of female teachers tends to be higher in primary education. On average across the six countries with available data, nearly eight out of every ten primary teachers are female. In contrast, on average across the ten countries with available data (Table 2.1.b), just over half of teachers in upper secondary education are female. This pattern is consistent with other data available on the gender distribution of teachers across different levels of education (OECD, 2013a).

There are no large differences in the average age of teachers across the different levels of education. (Any differences in the average need to take into account the countries that make up each average since different countries implemented each survey option.) The average age of teachers in primary education for the six TALIS countries is 43 years, while the average age of teachers in upper secondary education is 45 years.

Box 2.2. **Comparisons of gender and age distribution with TALIS 2008 data**

Very little difference in the gender distribution of the teacher workforce is evident in all TALIS countries with comparable data between 2008 and 2013 (Table 2.1.c).

TALIS 2008 showed large variations in the age distribution of teachers between countries. As shown in Table 2.1.c, these variations remain present in all countries, with very few differences between 2008 and 2013. An exception to this general trend can be seen in Bulgaria, Korea and Portugal, where the proportion of teachers aged 50 years or older is at least ten percentage points higher in 2013 than in 2008. This may be an indicator that the aging of the lower secondary teacher population has not slowed over the past few years. Moreover, in all countries except for Norway, there is also a smaller proportion of secondary teachers aged 30 years or younger.

Teachers' education and professional training

Teachers' pre-service education and training are just the beginning of their professional continuum of learning (European Commission, 2012; OECD, 2005; Ward et al., 2013). Indeed, the extent, the content and the quality of teachers' education can influence their future in-service learning needs. The research literature presents inconsistent findings



regarding the impact of teacher education and experience on student achievement. Some studies have shown limited or no relationship between teacher educational attainment, teacher qualifications and student outcomes (Buddin and Zamarro, 2009; Croninger et al., 2007; Harris and Sass, 2011; Larsen, 2010). Other studies and reviews have shown positive relationships between initial education (either in terms of its level or its content) or the process of obtaining teacher certification and teaching effectiveness (Clotfelter, Ladd and Vigdor, 2007, 2010; Darling-Hammond et al., 2005; Monk, 1994; Ronfeldt and Reininger, 2012). For example, Ronfeldt and Reininger (2012) found that the quality (rather than the duration) of the practical component of teacher education programmes can have positive impacts on select outcomes of pre-service teachers, such as their perception of preparedness, their efficacy and their career plans.

Table 2.2 summarises the highest level of formal education completed by secondary teachers. This table presents the percentages of teachers with various levels of education, as defined by the International Standard Classification of Education (ISCED 1997), which identifies comparable levels of education across countries. ISCED 5 represents the first stages of tertiary education and is split between ISCED levels 5A and 5B. ISCED level 5B programmes are generally more practically oriented and shorter than programmes at ISCED level 5A. ISCED level 5A typically includes Bachelor's degrees and Master's degrees from universities or equivalent institutions. ISCED level 6 represents further education at the tertiary level that leads to an advanced research qualification such as a Doctorate degree.

As shown in Table 2.2, in most countries, the great majority of teachers report having obtained formal education at the level of ISCED 5A. An exception to this is Flanders (Belgium), where 85% of the teachers have completed ISCED level 5B. Country differences often reflect the differences in qualification requirements among countries. In Flanders (Belgium), an ISCED level 5B education is required to be fully certified to teach in secondary education. On average, very few teachers (2%) have not completed tertiary education, although teachers with less than a tertiary education were most commonly found in Iceland (10%) and Mexico (9%).

Box 2.3 examines the educational attainment of primary and upper secondary teachers in those countries that have implemented TALIS for those populations, and Box 2.4 compares findings from TALIS 2008 and TALIS 2013 for countries with available data.

Box 2.3. **The educational attainment of primary and upper secondary teachers**

Tables 2.2.a and 2.2.b show that teachers' educational attainment levels are similar at the primary and upper secondary levels; the great majority of teachers in all participating countries completed ISCED level 5A (79% of primary teachers and 91% of upper secondary teachers on average).

Box 2.4. **Comparisons of lower secondary teachers' educational attainment with TALIS 2008**

As Table 2.2.c shows, overall, the proportion of teachers who have completed each level of education and training is very similar between 2008 and 2013 (less than three percentage points difference at each ISCED level). It is interesting to point out that some countries, such as Brazil and Bulgaria, have seen a slight decrease in their proportion of teachers without tertiary education (below ISCED level 5).

Table 2.3 shows that in all TALIS countries and economies, the majority of teachers report having completed a teacher education or training programme, ranging from 62% in Mexico and 71% in Serbia to at least 98% in Australia, Bulgaria, Poland, Singapore, Alberta (Canada) and Flanders (Belgium).

The structure, content and emphasis of initial teacher education all vary greatly across countries (Darling-Hammond and Lieberman, 2012; OECD, 2005), but teacher formal education usually includes opportunities for the development of practical experience alongside subject-matter training and pedagogical training. Table 2.3 also presents the percentage of teachers who report that these elements of teaching were included in their formal education for all or for some of the subjects they teach (see also Figure 2.2).

On average, 72% of teachers report having received formal education that included content for all the subjects they currently teach. A further 23% of teachers report having received prior content training for at least some of their subjects.



In Iceland and Alberta (Canada), less than half of the teachers (42% and 44%, respectively) report that their formal education included content for *all* the subjects they teach, which indicates a high proportion of teachers who are teaching subjects for which they may not have been specifically prepared as part of their formal education (Figure 2.2, right panel).

With respect to pedagogy, on average 70% of secondary teachers report that their formal education included pedagogy for all the subjects they teach and nearly one-quarter (23%) for some of the subjects they teach. Proportions are similar for practical components: On average, 67% of teachers report that their formal education included classroom practice in all of the subjects they teach, while 22% report it included practice in some of the subjects they teach. On one hand, Italy stands out, with only 35% of its teachers reporting that they had practical components for all the subjects they teach and an additional 12% for some of the subjects they teach. On the other hand, at least eight in ten teachers in Bulgaria (84%), Croatia (86%), Latvia (80%), the Netherlands (82%), Poland (88%), Romania (82%), Singapore (83%) and England (United Kingdom) (81%) report that their formal education included classroom practice for all the subjects they teach. TALIS data show, then, that overall, a majority of teachers have indeed received formal content and pedagogical training and a practical component for some or all of the subjects they currently teach (Figure 2.2).

■ Figure 2.2 ■

Teachers' feelings of preparedness for teaching

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



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

Source: OECD, TALIS 2013 Database, Tables 2.3 and 2.4.

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In general, teachers find that their formal education prepared them well for their work as teachers (Table 2.4 and Figure 2.2). On average, 93% of teachers report being well or very well prepared to teach the content of the subjects they teach, and 89% feel well or very well prepared in terms of the pedagogy and the practical components of the subjects they teach. However, it is striking that around a quarter or more of teachers in Finland, Japan and Mexico do not feel prepared or feel only somewhat prepared to teach the content, pedagogy and practical components of the subjects they teach (Figure 2.2).

What is it about a teacher's formal education, then, that makes the teacher feel more or less prepared for teaching? Country-level logistic regression analyses (described in Box 2.5) were performed to examine the relationship between specific elements included in teachers' formal education or training and how prepared teachers feel when encountering those elements in their teaching (Table 2.5). For some countries, the overall percentage of teachers not feeling prepared is too low to draw conclusions (Table 2.4),³ so only those countries in which a minimum of 5% of the teachers report not feeling prepared for these elements are further elaborated upon here. In all of these countries, the components of teachers' education and training seem to matter: Teachers are more likely to report feeling prepared for the content, pedagogy or classroom practice element of their teaching if this element was included in their formal training for some or all of the subjects they teach. As one would expect, the upward trend of feeling prepared is even stronger if teachers received this formal training for *all* of the subjects they teach (as opposed to only *some* of the subjects they teach).

When it comes to content matters, teachers in six countries are at least four times more likely to report feeling prepared if they received formal training in the content of all of the subjects they teach than if they had not. This effect is most pronounced for teachers in Bulgaria and France. In 13 countries, teachers trained in pedagogy are also at least four times more likely to feel prepared for these elements in their teaching. The countries that stand out in this area are Norway and, again, Bulgaria, where teachers are 9 and 18 times more likely (respectively) to feel prepared compared with teachers who had not received such training. Finally, in seven countries teachers are again at least four times as likely to feel prepared for classroom practice if this was included in their formal training. In Bulgaria, this association is even more dramatic, as teachers there are 15 times more likely to feel prepared for these aspects if these practical elements were included in the teachers' education for all of the subjects they teach than if they had not been included.

What these data show is that not only does a teacher's formal education (including teacher initial education) help them feel better prepared for their work as a teacher, but the specific elements included in that training, such as content and pedagogical training and classroom practice, can make a significant difference as well.

Box 2.5. Description of logistic regression analysis

Logistic regression analysis enables the estimation of the relationship between one or more independent variables (predictors) on categorical dependent (predicted) variables with two categories (binary logistic regression) or more than two categories (multinomial logistic regression). (Multinomial logistic regression compares multiple groups through a combination of binary logistic regressions.) Logistic regression analyses were carried out for each country separately because prior analysis showed noticeable differences in regression coefficients between countries. When a logistic regression is calculated, the statistical software (SPSS) output generates first the regression coefficient (β), which is the estimated increase in the log odds of the *outcome per unit increase* in the value of the *predictor variable*. Additionally, the exponential function of the regression coefficient ($\exp(\beta)$) is obtained, which is the odds ratio (OR) associated with a one-unit increase in the predictor variable. The transformation of log odds (β) into odds ratios ($\exp(\beta)$; OR) makes the data more interpretable in terms of probability. Three outcomes are possible for the odds ratios:

- OR=1 Predictor variable does not affect odds of outcome
- OR>1 Predictor variable associated with higher odds of outcome
- OR<1 Predictor variable associated with lower odds of outcome

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Box 2.5. **Description of logistic regression analysis** (cont.)

In the text, the language of odds ratios was made more accessible by reformulating and rounding up in terms of likelihood and probabilities.

In odds ratios, categories are compared with a predetermined reference category. For example, the combined “not at all/somewhat” prepared group was chosen as a reference category for the analysis examining the extent to which teachers feel that the contents of their formal education prepared them for their current work. Odds ratios can be interpreted in such a way that for a unit change in the predictor variable (e.g. having received formal training of content components for ALL of the subjects teachers teach, for SOME of the subjects teachers teach, or for NONE of the subjects teachers teach), the odds ratio of the outcome variable (e.g. feeling “well/very well” prepared for the content elements in the subjects teachers teach) relative to the reference category (e.g. feeling “not at all/somewhat” prepared) is expected to change by a factor of the respective parameter estimate, given that the variables in the model are held constant. In this particular analysis, the background variables included as control variables were teacher’s gender, years of experience, subjects taught and level of education.

Note that with cross-sectional data such as the TALIS data, no direction of impact can be established. Hence, it is not possible to distinguish empirically between, for example, a model that describes teachers feeling prepared for the content of subjects they teach as dependent on teachers’ formal education and a model that describes teachers’ formal education as dependent on the teachers feeling prepared for the content of subjects they teach. The perspective taken – i.e. the choice of independent and dependent variables – is entirely based on logic, experience and theoretical considerations.

Work experience of teachers

Along with teacher educational attainment, teachers’ work experience helps shape their skills and competencies. A teacher’s tenure may also affect his or her willingness to implement innovative practices or reforms (Goodson, Moore and Hargreaves, 2006).

The relationship between teacher experience and student achievement has been repeatedly examined in empirical studies (Clotfelter, Ladd and Vigdor, 2007, 2010; Croninger et al., 2007; Leigh, 2010). In Hanushek and Rivkin’s (2004) review, 41% of methodologically sound studies showed positive relationships between teacher experience and student achievement, while in 56% the results were positive but non-significant. Years of experience may especially matter early in a teacher’s career. Some evidence shows that each additional year of experience is related to higher student achievement, especially during a teacher’s first five years in the profession (Rockoff, 2004; Rivkin, Hanushek and Kain, 2005; Harris and Sass, 2011).

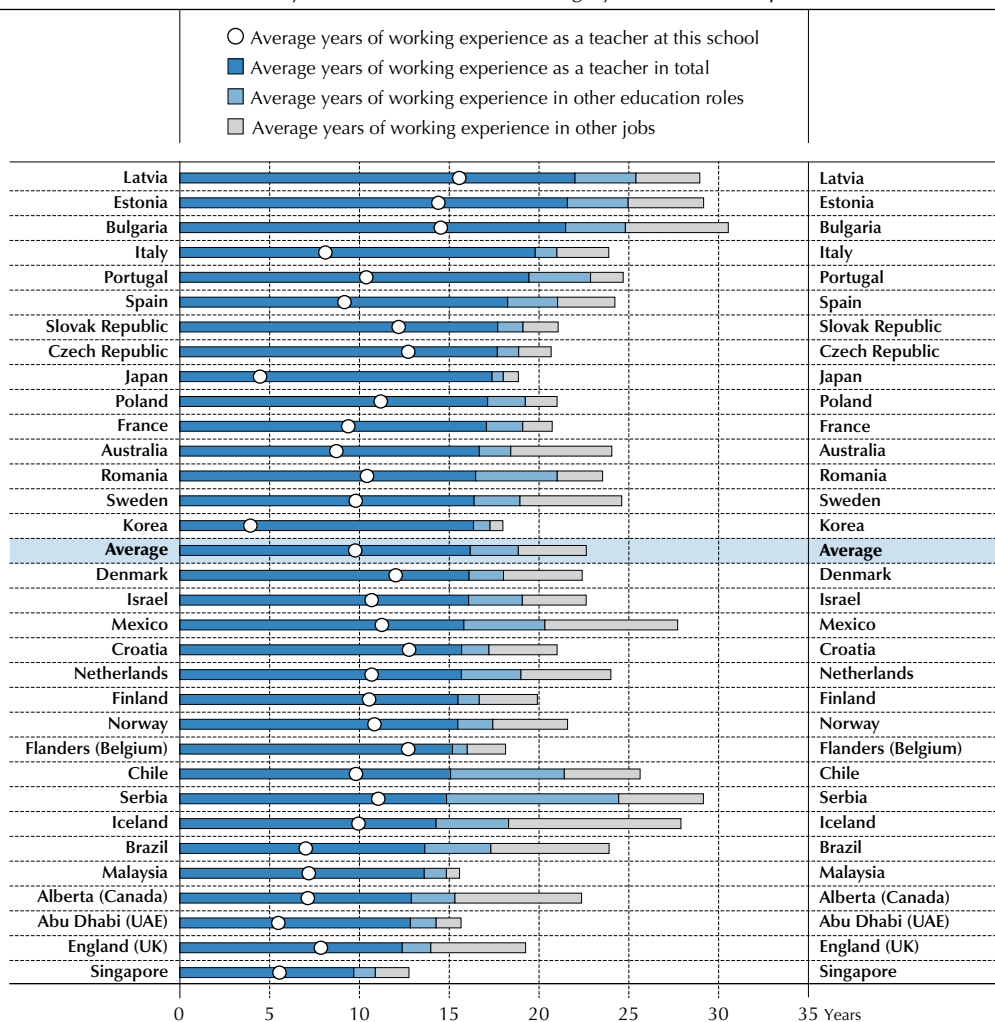
Table 2.6 presents the number of years that teachers report working as a teacher, working in other educational roles and working in other jobs (see also Figure 2.3 and Table 2.6.Web). It shows that across TALIS countries, teachers have on average 16 years of teaching experience, 3 years of experience in other educational roles and 4 years of experience in other types of jobs. On average across TALIS countries, one-third of all lower secondary teachers have more than 20 years of teaching experience. This represents a substantial proportion of teachers with considerable experience. In Bulgaria, Estonia and Latvia, this situation is even more pronounced, as more than 50% of the teachers have more than 20 years of teaching experience, while on the other side of the spectrum, 20% of the teachers in Singapore is in the first 2 years of teaching.

Box 2.6. **Work experience of primary and upper secondary teachers**

Tables 2.6.a and 2.6.b show teachers’ previous work experience for primary and upper secondary teachers. The average years of work experience as a teacher, in other educational roles and in other jobs are quite similar to those of lower secondary school teachers. Very few country differences emerge between the different educational levels, suggesting that teachers in primary, lower secondary and upper secondary education in all countries with comparable data have similar levels of previous work experience.




■ Figure 2.3 ■

Work experience of teachers*Lower secondary education teachers' average years of work experience*

Countries are ranked in descending order, based on the average years of working experience as a teacher in total.

Source: OECD, TALIS 2013 Database, Table 2.6.

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Employment status

Employment status can be an indication of job security (through long-term or permanent contracts) but also of job flexibility (through the possibility of choosing to work part time), and it is therefore an important factor in attracting teachers to the profession and retaining them (OECD, 2005). TALIS asked teachers whether they are permanently employed at their current school or whether they are employed on a fixed-term contract basis. The TALIS survey also asked teachers whether they work full time or part time across all their teaching jobs. Table 2.7 examines the distribution of lower secondary teachers who work full time and part time (defined as 90% or less of full-time hours), and Table 2.8 examines the proportion of teachers with permanent employment and with fixed-term contracts (of more or less than one school year).

On average, 83% of teachers across countries are employed permanently⁴ and 82% are employed full time.⁵ Only 12% are on fixed-term contracts of less than one school year. There are large variations between countries in the type of employment contracts (permanent or not). The lowest proportions of teachers with permanent employment status are found in Chile (63%), Romania (69%) and Abu Dhabi (United Arab Emirates) (50%), while all teachers in Malaysia are permanently employed at their current school.⁶



Of the 18% of teachers who work part time, nearly half indicate that they did not have an option to work full time. In Croatia, Mexico, Poland, Portugal and Serbia, these figures are even higher; between 81% and 96% of part-time teachers in these countries indicate that their employment status is the result of the absence of full-time opportunities. On the other hand, in Australia, Denmark, France, the Netherlands, Norway and England (United Kingdom), the vast majority of part-time teachers (85-90%) have chosen to work part time.

Box 2.7 compares findings on teachers' employment status from TALIS 2008 and TALIS 2013 for countries with available data.

Box 2.7. **Comparing teachers' employment status, TALIS 2008 and TALIS 2013**

Tables 2.7.c and 2.8.c show comparisons of TALIS 2008 and TALIS 2013 data of the full-time, part-time and permanent employment status of teachers across countries that participated in both cycles. On average, countries do not show big differences in the types of full-time and part-time arrangements teachers have. The largest difference between both cycles is found in Brazil, where 11 percentage points fewer teachers work full time in 2013 compared with 2008. In contrast, Mexico, which had the lowest proportion of teachers working full time in 2008, at 35%, shows a 5 percentage points increase in 2013, with 40% of teachers working full time.

With respect to permanent or fixed-term contracts, the proportion of teachers with permanent contracts is at least 10 percentage points lower in Korea and Mexico in 2013 compared with 2008. In these cases, employing teachers on fixed-term contracts may have been a cost-saving measure during a period of economic downturn. In contrast, during this same period in Iceland, there was an increase of more than 10 percentage points in the proportion of teachers with permanent contracts.

Distribution of teachers

An important issue to consider is the distribution of teachers across educational systems. Across countries, schools vary in terms of their location (rural vs. urban), the kinds of challenging circumstances they face and the particular subject areas for which they need teachers. Many countries are considering issues of teacher distribution as they try to find the right teachers to fill the needs in different areas of the system (Schleicher, 2012). Teacher distribution also becomes relevant in conversations about creating equity across an education system. A number of studies have found that teachers with weaker qualifications are more likely to teach in disadvantaged schools, which could lead to potential discrepancies in educational opportunities for the student population of these schools (Jackson, 2009; Bonesronning, Falch and Strom, 2005; Boyd et al., 2008; Lankford, Loeb and Wyckoff, 2002).

Are teachers equitably distributed across schools with different student composition?

TALIS data enable an examination of the distribution of teachers by their level of educational attainment (categorised as ISCED level 5A and above and ISCED level 5B and below) and their experience as teachers, separating more experienced teachers (those with more than five years teaching) from their less-experienced colleagues (five years or less of teaching experience). The following analyses look at the distribution of these teachers within schools with different types of student populations. School principals were asked to estimate the proportion of their student population with certain characteristics. For this analysis, schools are classified as more challenging if the principal indicated that their school was made up of more than 10% of students with a native language different from the language of instruction; more than 10% of students with special needs; or more than 30% of students from socioeconomically disadvantaged homes.⁷

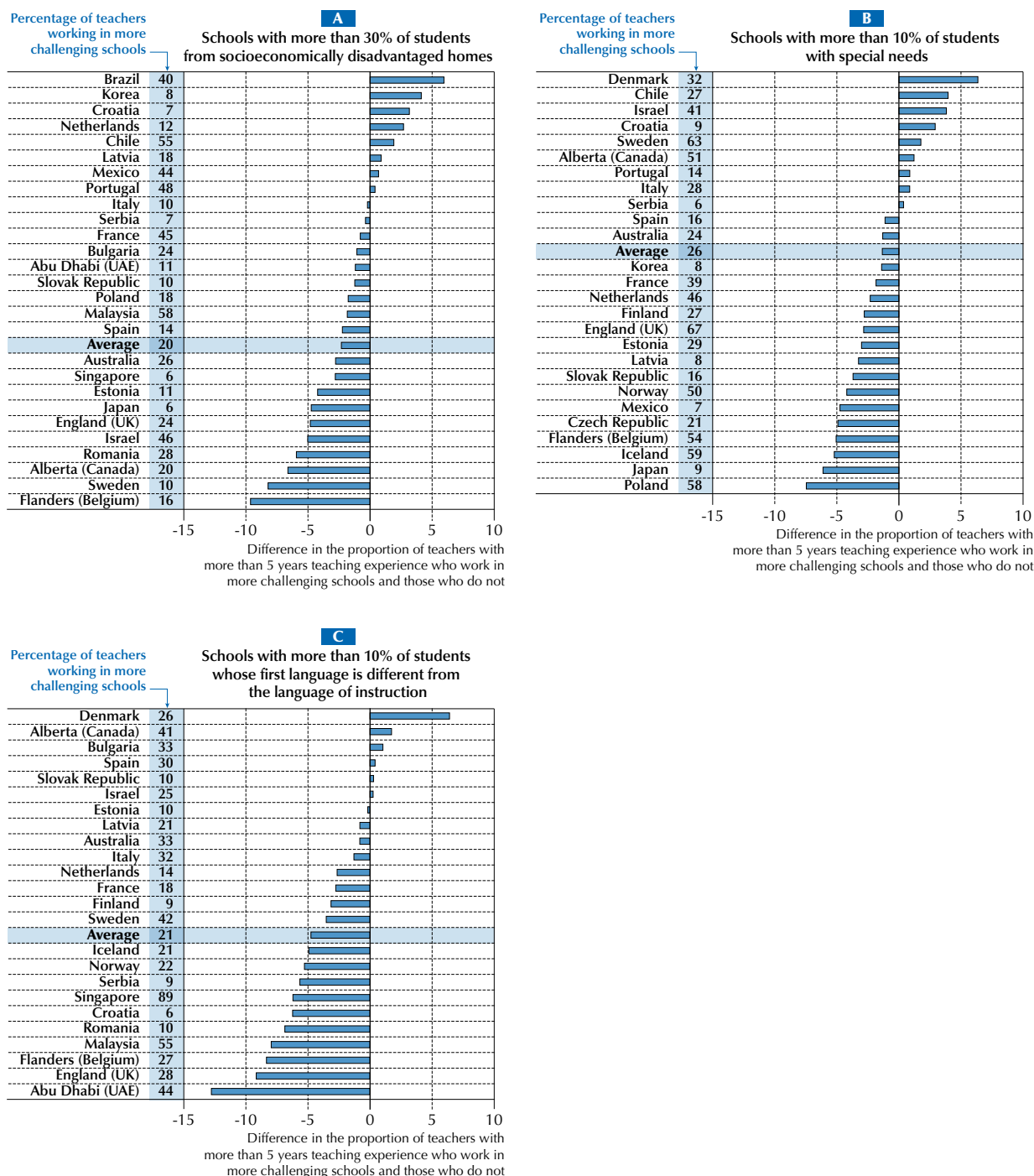
Tables 2.9 to 2.11 present the overall proportion of teachers who work in these more challenging schools, as well as the distribution of more experienced and more highly educated teachers among these three types of more and less challenging schools. There is considerable variation between countries in the proportion of teachers who work in more challenging schools (see the first column in Tables 2.9 to 2.11). It should be noted that the range of countries participating in TALIS 2013 is quite broad, and within these countries there might exist substantial variation in the overall populations of students who can be said to have these challenging characteristics. Nonetheless, regardless of the prevalence of these schools, an important policy consideration is how to ensure that teachers with the most experience and qualifications are teaching where they are most needed. Figure 2.4 illustrates the extent to which this happens across countries.



■ Figure 2.4 ■

Distribution of experienced teachers in more and less challenging schools

Proportion of lower secondary education teachers working in more challenging schools and difference in the proportion of more experienced teachers working in more and in less challenging schools^{1,2}



1. Categorisation of more challenging schools is based on principals' estimates of the broad percentage in the schools of: a) students from socioeconomically disadvantaged homes, b) students with special needs, and c) of students whose first language is different from the language of instruction.

2. Country data for categories representing fewer than 5% of the cases are not presented in this figure.

Countries are ranked in descending order, based on the difference in the proportion of experienced teachers who work in more challenging schools and those who do not.

Source: OECD, TALIS 2013 Database, Tables 2.9, 2.10 and 2.11.

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In countries and economies found at the top of each chart in Figure 2.4 (with positive differences), experienced teachers are more likely to be working in more challenging schools than in less challenging schools. This is the case for Brazil (for schools with high proportions of students from socioeconomically disadvantaged homes) and for Denmark (for schools with higher proportions of students with special needs and with a first language different from the language of instruction). These graphs show that for a majority of countries, however, the opposite is true. Negative difference scores on these graphs indicate that a larger proportion of more experienced teachers teach in less challenging schools compared to more challenging ones. In Flanders (Belgium) this is the case with respect to schools with larger proportions of students from socioeconomically disadvantaged backgrounds; in Poland this is true with respect to schools with higher proportions of students with special needs; and in Abu Dhabi (United Arab Emirates) this is the case with respect to schools with higher proportions of students whose first language is different from the language of instruction.

These descriptive distributions of teachers across challenging schools are informative, but are a teacher's level of educational qualification and work experience significant predictors of teaching in a more or less challenging school, when controlling for key variables such as gender and subjects taught? In other words, across countries, are teachers more likely to work in challenging schools if they have lower levels of education and less teaching experience? Or is the opposite the case? Country-specific binary logistic regressions were performed (see Box 2.5), with ISCED level 5B and below for education and less than five years for the work experience variable as reference categories. However, for some countries the percentage of teachers in each category is too low to draw conclusions (indicated by shaded cells in Table 2.12). Thus, only those countries with a minimum of 5% of teachers in the categories of interest for the analysis will be further elaborated upon here.

Most TALIS countries do not show a strong association between teachers' highest level of education or years of teaching experience and the distribution of teachers across schools with potentially more challenging student populations. In other words, in most countries the distribution of more experienced teachers is not different in more or less challenging schools. Nonetheless, in some countries, some significant and substantial associations are apparent for education level and for years of teaching experience (Table 2.12).

For example, in Bulgaria, teachers with higher educational attainment are 50% less likely to work in schools where more than one in ten students speak a mother tongue different from the language of instruction. Teachers from Chile who have more education are also more than 50% less likely to work in schools with more socioeconomically disadvantaged students. Similarly, teachers with higher levels of education are 40% less likely to work in schools with higher percentages of special-needs students in the Czech Republic and Serbia.

Yet the opposite relationship can be seen in other TALIS countries, where teachers with higher levels of education are more likely to work in schools characterised as more challenging. In Flanders (Belgium), teachers with higher education levels are 30% more likely to work in schools with a larger population of students with special needs, more than twice as likely to work in more linguistically diverse schools and nearly twice as likely to work in schools with higher proportions of students from socioeconomically disadvantaged homes (Table 2.12). In Singapore, these teachers are 60% more likely to work in more linguistically diverse schools.

Similar patterns can be observed with respect to teaching experience. In some countries, teachers with more than five years of teaching experience are less likely to teach in schools that could be considered more challenging. For example, in Abu Dhabi (United Arab Emirates), these teachers are 60% less likely to work in schools with higher proportions of students from diverse language backgrounds. In Sweden, teachers with more experience are half as likely to work in schools with larger proportions of students from socioeconomically disadvantaged homes.

In a smaller number of countries, more experienced teachers are actually more likely to work in schools that may be considered more challenging. Notably, in Denmark, these teachers are 70% more likely to work in schools with higher proportions of linguistic diversity in the student body, and they are 80% more likely to work in schools with higher proportions of students with special needs. In Brazil, more experienced teachers are 50% more likely to work in schools with higher proportions of students from socioeconomically disadvantaged homes.

These results suggest that at least in some TALIS countries, the distribution of teachers is somewhat more equitable than what is sometimes described in the literature, in that less-experienced teachers are not necessarily being placed in more challenging circumstances (Akiba and Liang, 2014; Clotfelter et al., 2007; Darling-Hammond, 2004). This isn't the case in all locations, however, and evidence from the cycle of the Programme for International Student Assessment (PISA)



in 2012 suggests that socioeconomically disadvantaged schools tend to have great difficulty in attracting qualified and/or quality teachers (OECD, 2013b). Even in those countries or economies in which teachers are free to choose where they work and are not placed in particular areas (either for their first assignment or as experienced teachers), there are policy implications for these findings. Governments can provide incentives to attract highly educated or experienced teachers to more disadvantaged schools or challenging locations. Strategies that are not tied to salary can also be employed, such as less class time or smaller class sizes for teachers who are teaching in difficult areas or have larger proportions of students with special educational needs. In addition, see Chapter 7 for a discussion on how issues of school climate relate to teacher job satisfaction.

Are teachers equitably distributed across schools located in rural and urban areas?

To ensure equity within an education system, but also to ensure that teachers work in contexts where they can receive the support they need to be successful, countries are also concerned with the distribution of less-experienced and less-educated teachers across urban and rural areas (Table 2.13). Following the same procedure as described in Box 2.5, country-specific regressions were performed to see whether teachers with lower levels of education or less experience are more or less likely to work in schools located in bigger cities than in small towns. In contrast to the analyses presented in the previous section, the analyses in this section use ISCED level 5A and above for education and five years or more for the work experience as reference categories. Again, for some countries the percentage of teachers in each category is too low to draw conclusions (indicated by shaded cells in Table 2.14). Thus, only those countries with a minimum of 5% of teachers in the categories of interest for the analyses will be further elaborated upon here. For the purpose of these analyses, school location was divided into three categories: schools located in areas with less than 15 000 people (towns), 15 000-100 000 people (small cities) and more than 100 000 people (large cities). In the regression analyses, small cities and large cities are compared with the reference category “towns”.

The analyses show that in a number of countries, education and/or teaching experience are indeed related to the likelihood of teaching in more populated areas (see Table 2.14, significant results in bold). In most countries, compared with teachers with higher levels of education and experience, those with lower levels of education and fewer years of teaching experience are less likely to work in areas that are more urban (both small and large cities), as opposed to more rural (towns with 15 000 or fewer inhabitants). For example, in Brazil and Bulgaria, teachers with lower educational qualifications are roughly 60% less likely to work in large cities as opposed to towns. Similarly, in Australia, Croatia, Romania, Serbia and Spain, teachers with fewer years of teaching experience are 40% to 70% less likely to teach in small and/or large cities than in towns. Policy makers in these countries and economies will want to explore the reasons underlying why less-experienced or less-educated teachers are more likely to teach in more rural areas. It might be that it is more difficult to attract teachers to these jobs or locations. Governments will also want to ensure that teachers in more rural areas have access to the same level of support, including development and resources, that they would if they worked in more urban locations.

Opposite associations appear for Latvia, however, where teachers with less experience are 2.5 times more likely to work in cities as opposed to towns. Similarly, teachers with lower levels of education and/or more teaching experience are at least 40% more likely to work in small and/or large cities than in towns in France, Norway, Poland, the Slovak Republic, Sweden, Abu Dhabi (United Arab Emirates) and Flanders (Belgium).

Are teachers teaching subjects for which they have been well prepared to teach?

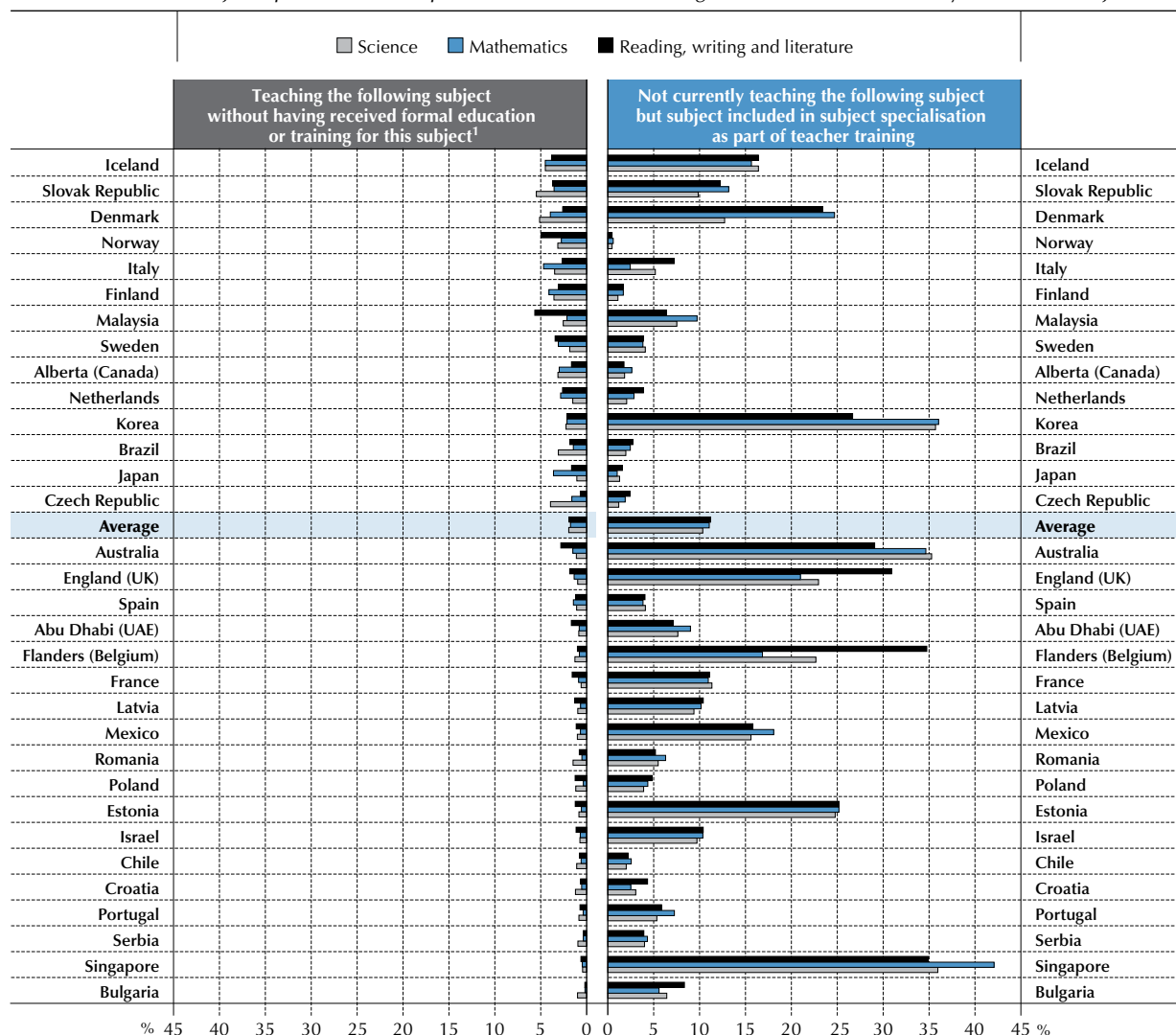
Because of shortages of qualified teachers in specific areas, individuals can be assigned to teach subjects for which they have not been adequately prepared. Alternatively, it is also possible to have a pool of teachers who are not currently teaching subjects for which they have received formal education or training. One indication of these situations is an examination of the mismatch between the education and training for teaching specific subjects and the subjects that are currently taught within countries (Figure 2.5).

Table 2.15 shows the percentages of teachers who currently teach in selected subject categories and indicates whether they have received formal education or training in these subjects. In general, for subjects such as reading, writing and literature, mathematics, science, and foreign languages, only small proportions of teachers (11% or less) seem to be teaching subjects in which they have not received formal education at ISCED level 4 or higher or at the in-service professional development stage. This overall average, however, hides important variation between countries and between subjects. A closer examination of Tables 2.15 and 2.15.Web reveals a number of countries where larger proportions of teachers did not report receiving formal education or training in the subjects they teach.⁸

■ Figure 2.5 ■

Teacher training mismatch and teacher resource allocation

Percentage of lower secondary education teachers who report teaching the following subjects without having received formal education or training for this subject and teachers who report that the following subjects were included in a subject specialisation as part of their teacher training but who do not currently teach this subject



1. This category includes those teachers who responded to the question but who did not select one of the response options (“in ISCED level 4 or 5B”, “in ISCED 5A or above”, “in subject specialisation as part of the teacher training”, or “at the in-service or professional development stage”) for that particular subject.

Countries are ranked in descending order, based on the sum of teachers teaching “reading, writing and literature”, “mathematics” and “science” without having received formal education or training for these respective subjects.

Source: OECD, TALIS 2013 Database, Tables 2.15 and 2.16.

StatLink <http://dx.doi.org/10.1787/888933041193>

For example, in the Netherlands, approximately one fifth of the teachers who currently teach reading, writing and literature or mathematics have not received formal education or training to teach these subjects. Approximately one-fifth of science teachers in Iceland have not received formal science education or training. This type of allocation issue for science is not apparent in Bulgaria, Chile, Estonia, France, Israel, Mexico, Portugal, Serbia, Singapore and Abu Dhabi (United Arab Emirates).

Finally, on average, one in ten foreign-language teachers have not received formal education or training in foreign languages. This percentage is much higher in Denmark (21%), Iceland (22%) and Malaysia (20%), indicating a potentially high need in these countries for teachers with specific training to teach foreign languages.



In some countries, the data show similarly high potential needs for teachers trained to teach subjects from other subject categories, such as social studies, technology, arts, physical education, religion and/or ethics, and practical and vocational skills. The overall average of teachers teaching subjects in these categories who have not received formal education or training at the ISCED level 4 or higher, or at the in-service professional development stage in these subjects, ranges from 9% for physical education to 23% for teaching practical and vocation skills (Table 2.15.Web).

At the same time, there are significant proportions of teachers who do not currently teach in subject categories that were included in a subject specialisation as part of their teacher training (Tables 2.16 and 2.16.Web). In some cases at least, these teachers might represent a potential resource that could be used to more efficiently address the apparent teacher shortages in some subject categories as highlighted previously. The right panel of Figure 2.5 shows this potential pool of teachers that could alleviate the shortages experienced in some subject categories (as shown on the left panel of Figure 2.5). Looking at Iceland's data, for example, nearly 5% of Iceland's teachers currently teach mathematics but have not received formal education or training at ISCED level 4 or above or at the professional development stage in this subject, while nearly 15% of Iceland's teachers are not currently teaching mathematics but report that this subject was included in their teacher training. Similar situations are seen for other subject categories in some countries.

A PROFILE OF SCHOOLS WHERE TEACHERS WORK

This section explores the school-level background information provided by principals that describes the schools in which lower secondary education teachers work. This kind of data can provide important contextual information to consider both on its own and in relation to teachers' work and the working conditions that teachers perceive enable them to function effectively in their roles. This section looks at the size and location of schools, the resources to which they have access, the quality of the school climate and the level of autonomy they have in decision making.

School type and school composition

Teachers work in schools that can vary greatly in terms of their location (rural or urban environment), their sector (publicly or privately funded), their size and the characteristics of their student population. All of these factors are important aspects of teachers' work environment and can interact with other aspects of teachers' work.

The ideal school size has also been a topic of debate for over a century. In two recent reviews of empirical studies that researched the effects of school size on various student and organisational outcomes, smaller schools are concluded to be favourable. In larger schools, teacher-student relations can be more difficult to develop and socioeconomically disadvantaged students or students with learning difficulties tend to be overlooked (Leithwood and Jantzi, 2009; Ready, Lee and Welner, 2004). However, some evidence suggests that larger schools are better in nurturing the achievement of academically successful senior high school students (Schreiber, 2002). Also, some studies indicate that greater costs are involved to educate a student in a small school compared with a large school (Barnett et al., 2002; Bowles and Bosworth, 2002).

Overall, working in a public school appears to be the norm for the average teacher. On average, 82% of TALIS teachers work in public schools, and 77% of teachers work in schools (public or private) that compete with one or more schools for students (Table 2.17). Nevertheless, in a number of countries, fewer than half of the teachers work in public schools, notably Chile (40%), the Netherlands (22%), Abu Dhabi (United Arab Emirates) (45%) and Flanders (Belgium) (27%).⁹

As can be seen in Table 2.18, the average school size across TALIS countries is 546 students.¹⁰ Countries with average student bodies over 1 000 are Malaysia, Portugal and Singapore. While the overall TALIS average number of teachers per school is 45, the averages for the aforementioned countries are much higher and range from 83 to 110. The average class size across countries is 24.¹¹ Larger class sizes are seen in Brazil, Chile, Japan, Korea, Malaysia, Mexico and Singapore, each with more than 30 students in the classroom.

Box 2.8. School type and school composition in primary and upper secondary schools

Tables 2.17.a and 2.17.b show the proportion of primary and upper secondary teachers who work in public and private schools. As was the case for lower secondary, the vast majority of teachers work in public schools (83% for primary school teachers and 82% for upper secondary school teachers). Notable exceptions to this overall finding are Flanders (Belgium), where only 39% of primary teachers work in public schools, and Australia and Abu Dhabi (United Arab Emirates), where only 56% and 43% of upper secondary teachers work in public schools.



Across all TALIS countries, the average student-teacher ratios vary.¹² In Estonia, Iceland, Norway, Poland and Flanders (Belgium), the ratio is 8 students for every teacher. The ratio is 19 students per teacher in Brazil and 20 students per teacher in Chile and Japan (Table 2.18). The ratio of teachers to support personnel also varies significantly across countries.¹³ On average, there is one pedagogical support person for every 14 teachers in a school. For Italy and Malaysia, this ratio is much higher; on average in Italy there is one support person for every 60 teachers, and in Malaysia there is one for every 53 teachers. For Iceland, Alberta (Canada) and England (United Kingdom), support personnel is provided for every four teachers. It is noteworthy that ratios of teachers to school administrative or management personnel¹⁴ tend to be lower, perhaps showing a greater emphasis on providing administrative rather than pedagogical support. On average, there is one administrative or management support person for every six teachers in the school (though the number of teachers is roughly double for Croatia, Finland, Italy and Sweden).

Box 2.9. Primary and upper secondary school and class size

Tables 2.18.a and 2.18.b show the average school and class sizes in primary and upper secondary in countries with available data. Unsurprisingly, the average number of students is much lower, with 248 students, in schools where primary teachers work than in schools where upper secondary teachers work (788 students on average). Similarly, there are more than three times as many teachers on average in schools where upper secondary teachers work (69) than in schools where primary teachers work (20).

The average primary school class size (20 students) is somewhat smaller than in lower secondary schools (24 students) or upper secondary schools (24 students). In some countries, it is possible to compare between ISCED levels. The only country where the average class size is larger in primary education than in lower secondary education is Flanders (Belgium), although it is a very small difference of just one student. The average class size is smaller in upper secondary education than in lower secondary education in Australia (19 vs. 25), Norway (19 vs. 23), Singapore (33 vs. 36) and Abu Dhabi (United Arab Emirates) (24 vs. 25).

The overall average student-to-teacher ratios are very similar between all levels of education. In specific countries, however, more important differences emerge. For example, in Mexico, the student-to-teacher ratio is much less favourable in primary education (24 students for each teacher) than in lower secondary education (15 students per teacher) or upper secondary education (16 students per teacher). In a few countries there are slightly more favourable ratios in upper secondary education compared with lower secondary education, namely in Finland (10 vs. 13 students per teacher) and Iceland (8 vs. 12 students per teacher).

In a few countries, there is also evidence of more pedagogical support for teachers in primary than in lower and/or upper secondary schools. Such a case is found in Finland (5 additional pedagogical support staff for every teacher), Mexico (6 additional pedagogical support staff) and Flanders (Belgium) (16 additional pedagogical support staff). In Denmark and Iceland, the teacher-to-pedagogical-support ratios are less favourable in upper secondary schools than in lower secondary schools (39 vs. 10 and 20 vs. 4, respectively). In contrast, teachers in Italy benefit from much more pedagogical support in upper secondary (18 teachers per pedagogical support) than in lower secondary schools (60 teachers per pedagogical support).

School resources

Although there is great policy interest in improving educational outcomes around the world, there remains even greater uncertainty as to how to achieve this. Countries often enact education policies that look at increasing or making a more equitable distribution of resources to schools. Resources, as defined by TALIS, could be teaching staff (especially targeted at specific student or subject needs) or material resources, such as instructional materials, computers or computer software. A variety of studies suggest that resource-only policies are unlikely to be effective (Hanushek, 2006; OECD, 2010). Resource policies should have links to specific incentives, for example targeting those schools with many socioeconomically disadvantaged or special-needs students. PISA also shows that the more school principals perceive that resource shortages hinder instruction, the lower student performance in that school (OECD, 2007: 263).

Research does show that across different countries, headteachers and principals generally have great concerns over teacher shortage and inadequacy as well as teacher turnover. These concerns are supported empirically by some research (Akiba and Liang, 2014; Clotfelter et al., 2007; Darling-Hammond, 2004) and by the analysis of the distribution of teachers earlier in this chapter, although other research suggests that neither location, school size nor selection



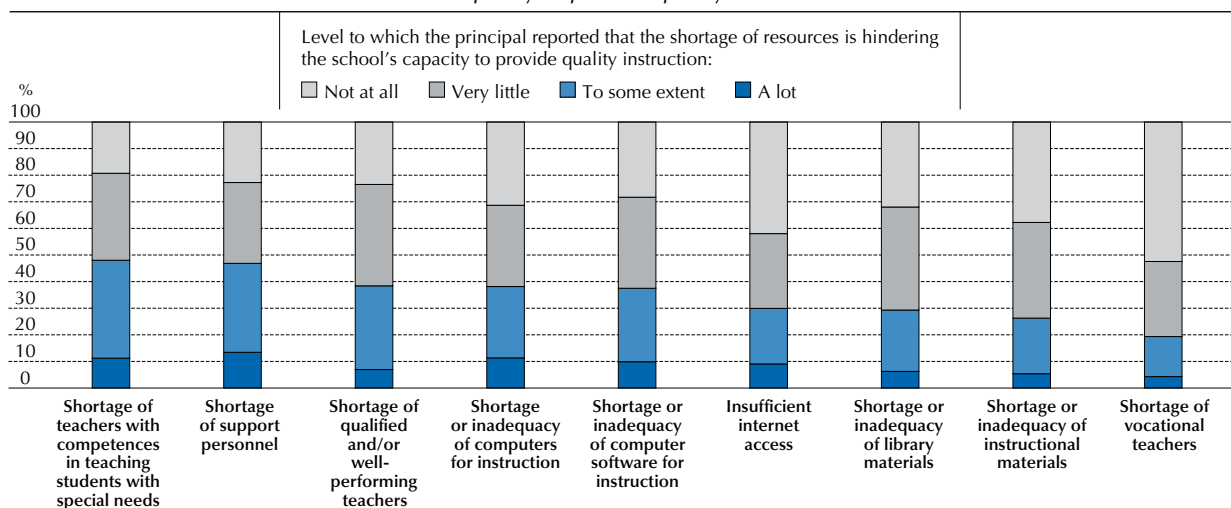
policies of schools have any noticeable effect on the likelihood of principals reporting problems with either teacher shortage, inadequacy or turnover (White and Smith, 2005). This section investigates the relationship between school characteristics and resources issues for the TALIS countries.

Table 2.19 presents the proportion of teachers who work in schools with different types of shortages that principals felt hindered the provision of quality instruction in their school (see also Figure 2.6). More than a third of lower secondary teachers work in schools where principals indicate that there is a significant shortage of qualified and/or well-performing teachers. This figure varies based on the kind of teacher that is needed. On average, less than 20% of teachers work in schools with a reported shortage of vocational teachers, but nearly half work in schools where there is a need for teachers of students with special needs or support personnel. In particular, a significant proportion of teachers in Japan (80%), the Netherlands (71%) and Abu Dhabi (United Arab Emirates) (60%) work in schools with a shortage of qualified and/or well-performing teachers. Conversely, this is less of an issue in some countries, where less than one-fifth of teachers work in schools where the principal reports this issue (Denmark, 15%; Finland, 17%; Iceland, 14%; Poland, 13%).

■ Figure 2.6 ■

Lack of resources hindering the school's capacity for quality instruction

Percentage of lower secondary education teachers whose school principal reports that the following resource issues hinder the school's capacity to provide quality instruction in their school



Items are ranked in descending order, based on the percentage of teachers in lower secondary education whose school principal reported that the shortage of resources is hindering "a lot" or "to some extent" the school's capacity to provide quality instruction in their school.

Source: OECD, TALIS 2013 Database, Table 2.19.

StatLink <http://dx.doi.org/10.1787/888933041212>

As for shortages of materials, between 26% and 38% of teachers across TALIS countries work in schools where principals report a shortage of or inadequate instructional materials, computers or computer software for instruction, internet access and library materials (as reported by their principals). Romania and the Slovak Republic are the most under-resourced in terms of adequate instructional material, with roughly 80% of teachers working in schools where principals report a deficit in this area. Romania and Mexico show particularly high concerns about the availability and quality of computers, computer software and internet access (64%-76%). More than half of the teachers in Mexico and Romania also work in schools where library materials are a concern for principals in providing quality instruction (Table 2.19).

School climate

The concept of school climate is not a new one; its relevance and importance have been recognised for 100 years (Cohen et al., 2009; Thapa et al., 2013). Over the past three decades, however, researchers and educators alike have recognised the influence of school climate on other parts of, or players in, the learning environment. School climate comprises quality of school life and includes factors such as safety issues (bullying or verbal or physical abuse of teachers or students); late arrivals to school, absenteeism by teachers or students, or cheating; criminal behaviours (vandalism or drug and alcohol possession or use); and discrimination. But school climate also includes the overall culture of the school in terms of the quality of the relationships between staff and between staff and students and the levels of co-operation, respect and sharing that are present.



Research shows that a positive school climate is a powerful influence on many elements affecting both students and teachers in a school. Most importantly, perhaps, school climate has been shown to be related to student academic achievement at all levels of schooling (MacNeil, Prater and Busch, 2009; Sherblom, Marshall and Sherblom, 2006; Stewart, 2008). Constructive teacher-student relationships associated with a positive school climate not only affect teaching and learning but have also been shown to influence other student-related factors, such as the prevention of bullying or violence in a school (Eliot et al., 2010) and the motivation of students to learn (Eccles et al., 1993). A healthy school climate has been shown to be related to teachers' confidence that they can influence student learning (Hoy and Woolfolk, 1993) and to aid in teacher retention (Fulton, Yoon and Lee, 2005; Weiss, 1999).

The TALIS data look at the student and teacher behaviours contributing to school climate separately. Of all factors included in school climate, weekly absenteeism and late arrival to school by students are by far the most commonly occurring across TALIS countries (Table 2.20). Fifty-two percent of teachers work in schools where principals report that students arrive late on a weekly basis, and 39% of teachers work in schools where absenteeism of students occurs every week across countries. Yet in Chile, Finland, the Netherlands, Sweden and Alberta (Canada), the problem is more severe, with 70% or more of teachers working in schools where principals report that students arrive late on a weekly basis. In these countries and economies, absenteeism of students is also reported as significantly higher than the TALIS average. In particular, in Finland, Sweden and Alberta (Canada), more than 60% of teachers work in schools where school principals report that this behaviour in students occurs on a weekly basis.

The occurrence of the more serious infractions of cheating, vandalism and theft, and intimidation or verbal abuse among students varies widely across TALIS countries (Table 2.20). Whereas approximately one-third of teachers in Croatia, Estonia and Latvia work in schools where principals report that cheating occurs at their school, in the Netherlands this number is 58% and in Poland it is 40%. In contrast, in more than one-third of TALIS countries, 5% or less of teachers work in schools where principals report that cheating occurs in their schools. Moreover, the most serious infractions of vandalism and thefts are not reported frequently. Only in Brazil, Malaysia and Mexico did more than 10% of teachers work in schools where principals report experiencing incidents of vandalism or theft on a weekly basis.

Furthermore, almost a third of teachers in Brazil, Mexico, Sweden and Flanders (Belgium) work in schools with reported intimidation or verbal abuse occurring among their students on a weekly basis (Table 2.20). This percentage is smaller, at 5% or less, for teachers in the Czech Republic, Japan, Singapore and the Slovak Republic. Finally, fewer teachers in all TALIS countries work in schools where physical injury caused by violence among students and use/possession of drugs and/or alcohol is reported. The same is true for intimidation or verbal abuse of teachers or staff in all countries except Australia, Brazil and Estonia, where 10% or more of the teachers work in schools where their principals declare that intimidation or verbal abuse of teachers or staff occurs at least weekly.

Table 2.21 presents the proportion of teachers who work in schools where the climate is negatively impacted by certain teacher behaviours (as reported by principals). The degree to which teachers work in schools where teachers arrive late varies widely across countries. Yet there seem to be fewer teachers who work in schools where teacher absenteeism or discrimination is a problem. On average across TALIS countries, 11% of teachers work in schools where principals report that teachers arrive late at least weekly. This type of climate is more widespread in Brazil, Chile, Mexico and Flanders (Belgium), encompassing a quarter or more of teachers. A significant proportion of teachers in Australia, Brazil, Chile and Mexico (between 16%-21%) work in schools where principals report problematic teacher absenteeism.

Teachers' work is also greatly influenced by the professional climate in the school. It is important to consider to what extent school staff share a common set of beliefs about schooling, the degree to which staff have open discussions about difficulties, the extent to which there is mutual respect for colleagues' ideas and whether there is a culture of sharing success. It seems that in these areas, most teachers across TALIS countries work in environments with a positive professional climate among the teaching staff. As can be seen in Table 2.22, 87% of teachers across TALIS countries work in schools where principals report that their school staff share a common set of beliefs, although this is reported by principals of only 57% of Croatian teachers. A further three-quarters of teachers work in schools where principals report high levels of co-operation between their school and the local community, though this is less than half for Denmark (46%), the Netherlands (21%), Norway (41%) and Sweden (33%). Finally, between 90% and 93% of all teachers across TALIS countries work in schools where principals report that their staff have open discussions about difficulties, mutual respect for colleagues' ideas and a culture of sharing success.

A final indicator of school climate in TALIS is the quality of student-teacher relations. Table 2.23 provides an overview of teachers' and principals' views on several important indicators of student-teacher relations. On average, 98% of



principals across all TALIS countries report good relations between teachers and students, with no notable exceptions. Furthermore, the vast majority of teachers (between 91% and 96%) report positive teacher and student relations at their schools. It is only in the area of providing students with extra support that any variation is observed. In Brazil (77%), Korea (77%), Mexico (72%) and Sweden (74%), fewer than eight in ten teachers report that students get extra support if they need it.

Box 2.10 compares findings from TALIS 2008 and TALIS 2013 for countries with available data.

Box 2.10. Comparing teacher-student relations in lower secondary education, TALIS 2008 and TALIS 2013

Table 2.23.c provides a comparison of TALIS 2008 and TALIS 2013 data on teacher-student relations in education for those countries that participated in both cycles. It can be seen that across indicators, average scores have not changed much, though a small difference was observed across countries for teachers and students getting along better. In 2013, 8 percentage points more teachers in Estonia report that teachers in their schools have an interest in what students have to say. Conversely, in 2013, teachers in Korea were less likely (76%) than in 2008 (86%) to report that students in need of extra assistance in their schools are provided with such assistance.

School autonomy

TALIS asks school principals about their level of school autonomy, or the degree to which the responsibility for decision making in certain areas is held at a school level, as opposed to at a local or national government level. It is possible for schools to have autonomy in some areas but not others. For example, schools may have the power to appoint or hire teachers but may not be able to determine their starting salaries or set pay scales. They may be able to determine course content or choose which learning materials are used, but the decision as to which courses are offered may not be made at a school level.

Increased school autonomy is being considered in more countries and school systems, and we see charter schools and other independent school models promising autonomy for schools and further decentralisation of systems (Finnegan, 2007). Indeed, a general reading of the research seems to show that greater levels of autonomy for schools would also improve learning outcomes. However, upon closer inspection, it is evident that the impact of autonomy on student achievement varies across countries (Hanushek, Link and Woessmann, 2013). The kinds of decisions that are devolved to a school level also make a difference; some studies show the importance of curricular and assessment decisions being made at a school level (OECD, 2010), while others emphasise the benefits of process and personnel decisions being decentralised (Wößmann, 2007). There are other possible benefits for autonomy in developing the roles of school leaders, for example, if their decisions are supported and their responsibilities are well defined (Pont, Nusche and Moorman, 2008).

Table 2.24 provides a snapshot of the proportions of teachers across countries who work in schools where certain key responsibilities lie at the school level (as reported by their principal). Tasks that principals reported on were hiring and dismissal of teachers, teacher pay issues, budgeting within the school, establishing student discipline, assessment and admission and any curricular issues. There are a few countries where a large proportion of teachers work in schools where principals report a high level of autonomy across all areas. In the Czech Republic, Estonia, the Netherlands, the Slovak Republic and England (United Kingdom) almost all teachers work in schools where principals report that all listed tasks are completely decided upon at the school level. For the remaining countries, teachers tend to work in schools where the level of autonomy varies per task. Teachers in Malaysia and Mexico seem to work in schools where principals report consistently low levels of autonomy.

Across countries, almost all lower secondary teachers work in schools where principals report that the schools have significant responsibility for establishing student disciplinary policies and procedures and choosing which learning materials are used (Table 2.24). In contrast, less than 40% of teachers, on average, work in schools where principals report that the school is empowered to make decisions on pay issues (such as establishing teachers' starting salaries, setting pay scales and determining teachers' salary increases). The areas with the most variation between countries include hiring and dismissing or suspending teachers. In more than half of the TALIS countries, 90% or more of teachers work in schools where school principals say they have significant autonomy at a school level for hiring or appointing



teachers. Yet less than a third of teachers in France (31%), Japan (18%), Malaysia (7%), Mexico (31%) and Spain (27%) work in schools where principals report that the school enjoys this privilege. When it comes to dismissing or suspending teachers, the school-level authority decreases further, with less than a third of teachers in France (16%), Japan (17%), Korea (33%), Malaysia (6%), Mexico (29%) and Spain (26%) working in schools having this authority.

SUMMARY AND MAIN POLICY IMPLICATIONS

The background information presented in this chapter about teachers and the schools in which they work offers a basis for the analyses and policy recommendations in subsequent chapters of this report but is of interest on its own as well. While there are, of course, variations across countries, the TALIS data provide a picture of the “typical” teacher of lower secondary education across TALIS countries.

According to TALIS, the typical lower secondary teacher:

- is a woman;
- is 43 years old;
- has completed university or other equivalent higher education (ISCED 5A);
- has completed a teacher education or training programme;
- has 16 years of experience as a teacher; and
- is employed on a full-time basis with a permanent contract.

Likewise, the TALIS data give a description of the school environment in which the typical lower secondary school teacher works. This is a school that:

- is public;
- competes with other schools for students;
- has 546 students, 45 teachers and an average class size of 24 students;
- employs one pedagogical support personnel for every 14 teachers in the school and 1 administrative or management personnel for every 6 teachers;
- has adequate material and staffing resources;
- experiences students arriving late to school on a weekly basis; and
- enjoys good relations between teachers and students.

When presented only with the average situation across countries, the state of lower secondary education looks quite positive. In a very general sense, teachers seem experienced and educated and have stable employment. Teachers enjoy positive classroom climate, reasonable class sizes and principals report adequate staffing support and material resources. However, there are exceptions to each of these averages, both between countries and within countries. It is in the deviation from these averages that the opportunities for reform lie. Looking across countries at the “typical” teacher reveals potential challenges and opportunities for governments and school leaders in particular.

Provide extra support to less experienced or more experienced teachers in the workforce, based on their specific needs

The TALIS data note that some countries, such as Italy, may have a more experienced but aging teaching workforce, while others, such as Singapore, might have a generally younger but somewhat less experienced teaching workforce. There are impacts on and opportunities for policies to help shape the teaching profession in both of these instances. If a country has a young teaching force, as is the case in Singapore, initial teacher education will have a greater influence on the practices occurring in the classroom. (See Chapter 6 for a further discussion of the TALIS data on teaching practices.) The aging teacher population in Italy and other countries requires more emphasis on continued professional development to help teachers adapt to changing demands. (See Chapter 4 for further analysis of the TALIS data on teacher professional development.)

Review the allocation of teachers across the system and develop policies to attract teachers to more challenging schools

When considering the data on the distribution of teachers, it is clear that a number of countries face challenges in matching their supply of teachers to their needs. Some countries do not have an equitable allocation of more experienced teachers across the education system, in both more and less challenging schools (Figure 2.4). Some countries have had a great deal of success in attracting teachers to schools with challenging circumstances. For example, PISA 2012



data show Portugal, Poland and Finland as the top three OECD countries in terms of allocating a higher proportion of qualified teachers to socioeconomically disadvantaged schools than to advantaged schools.

The data discussing whether teachers have received training for the subjects they teach are also revealing of a potential resource allocation issue within some countries (Figure 2.5). In some countries, significant percentages of teachers are currently teaching subjects for which they have had no formal education or training, while equally important percentages of teachers are not teaching subjects for which they have received training. In these countries, it would be well worth looking at the reasons behind this mismatch and perhaps developing policies designed to attract experienced teachers where they are most needed, whether this is in more challenging locations or where teacher shortages in specific subjects are more prevalent.

Ensure that schools are given more autonomy in the right areas, for the right reasons

Finally, issues of school autonomy are important to consider as well. While TALIS data identify in which countries principals report that their school enjoys less autonomy for certain tasks, this does not necessarily indicate that more autonomy is needed in all of these areas. For example, the individual actors within the system may not have the capacity for certain kinds of decision-making responsibility. Further, as data from the OECD PISA indicate, schools tend to perform better when higher levels of autonomy in certain areas are also paired with higher levels of accountability (OECD, 2010). In other words, policies that grant schools more autonomy without providing support or accountability mechanisms are not the answer.

Notes

1. For more information on the questions that were asked of teachers and school principals, see the TALIS questionnaires in the TALIS 2013 Technical Report.
2. To clearly understand the reasoning behind this analytical decision, it is important to remember that the main purpose of TALIS is to gather data on teachers and their working conditions. If issues are examined on a school-level only, the number of teachers at the school is not taken into account. A problem of particular policy interest might plague 25% of schools in a country, but these could be the smallest schools in the country, and thus this problem would affect only a small minority of the teachers in that country. If analyses are conducted at a teacher level, however, they provide a more accurate picture of the percentage of the country's teacher population that is affected by a particular issue, and thus enable policy decisions to be made that more accurately reflect the teacher issues at stake.
3. The reference category is the combination of teachers who answered "not at all prepared" or "somewhat prepared".
4. The questionnaire asked teachers to refer to their employment in the school that was selected to participate in TALIS 2013 and not include employment at any other schools in which they may work.
5. The questionnaire asked teachers to refer to all their current teaching jobs combined.
6. Only government-controlled schools were included in the Malaysian sample.
7. To determine the cut-off points for the percentages of students needed to form these categories of more challenging schools, the overall distribution of teachers in schools with certain proportions of students with each type of characteristic was examined. These thresholds of more than 10% or more than 30% were chosen because in each one of these cases, fewer than one-fifth of the teachers overall work in schools characterised as being more challenging.
8. In some countries, teachers who teach mostly or entirely special-needs students may not have received training to teach a particular subject.
9. In this survey, the school types were defined as either publicly managed or privately managed. Note that in some countries, the privately-managed-schools category includes schools that receive significant government funding (government-dependent private schools).
10. The data used for the number of students, number of school staff and ratio presented in this section are reported by principals and are means of the schools where lower secondary teachers worked. The education provision in these schools may extend across ISCED levels (e.g. in schools that offer both lower and upper secondary education) and therefore may not apply only to teachers or students in lower secondary education.
11. Class-size data are reported by teachers and refer to a randomly chosen class they currently teach from their weekly timetable.
12. Based on head counts reported by principals.



13. Support personnel include teacher aides or other non-teaching professionals who provide instruction or support teachers in providing instruction, professional curriculum/instructional specialists, educational media specialists, psychologists and nurses.

14. School administrative personnel include receptionists, secretaries and administrative assistants, and school management personnel include principals, assistant principals and other management staff whose main activity is management.

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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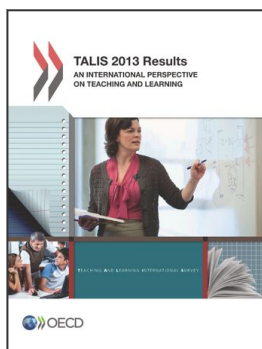
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