TALIS 2018

South Africa Country Report

Teachers and School Principals as lifelong learners

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REPUBLIC OF SOUTH AFRICA

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TALIS

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TALIS 2018

SOUTH AFRICA

COUNTRY REPORT

Teachers and Principals as Lifelong Learners

TALIS 2018 Results: Volume I

FOREWORD

The identity of a 21st century teacher is rapidly changing. Teachers are faced with a pressing challenge of preparing learners adequately with skills and knowledge for them to be active and contributing citizens of a Fourth Industrial Revolution. In the South African context, issues of a developmental state, scarcity of skills, and fiscal constraints contemporise an identity and practice, yet require innovative, high quality, and advanced knowledge workers, who are capable of mediating teaching, and stimulating learning within changing environments. In this regard, learners must look up to their teachers and see them as active lifelong learners.

I am pleased that we have participated in the 2018 Teaching and Learning International Survey (TALIS). As the only participant from the African Continent in this global study coordinated by the Organisation for Economic Cooperation and Development (OECD), we have once again positioned our country as a learning system, eager and willing to measure our capabilities among the best in the world. We do so, knowing that many of the countries of the world, have far more robust and advanced education settings; but we are committed towards building an excellent education system that stands up to high international benchmarks and standards.

In this regard, TALIS aims to provide valid, timely and comparable information to help countries review and define policies for developing a high-quality teaching profession. The study provides an opportunity for teachers and school leaders to provide input into educational policy analysis and development in key areas. In South Africa, 2 046 lower secondary teachers and 169 principals completed the TALIS questionnaires.

Teachers are frontline actors in improving learning outcomes. While we recognise and appreciate that we are a "system on the rise", we are cognisant of work that needs to be done in addressing early learning gaps on reading comprehension and functional numeracy. Equipping the teacher with adequate knowledge and skills to deal comprehensively with these foundational hallmarks of learning must become the priority of an integrated teacher recruitment and retainment strategy from initial teacher education to continuous professional development. TALIS reminds us that many of our teachers have a high self-efficacy and are motivated by an intrinsic need to influence learners' development and contribute to society. Education policy must therefore encourage teacher growth, inspire and enable innovation, identify and share best practice to reduce perceived gaps between professional vison and pedagogical practice.

Given the important role our teachers and principals play, our education systems must take greater interest in the professional views of teachers as experts on teaching and learning. Surveys, such as TALIS, which foreground the teacher perspective on their working conditions, professional knowledge, instructional quality, and the changing landscape will strengthen our efforts to re-engineer the education system to achieve the best possible outcomes.

In this Country Report critical information is provided on the socio-demographics of our teaching profession, their instructional practices of teachers, their levels of preparation and development, teaching in a diverse classroom, and teaching in a multicultural or multilingual settings. Teacher interests, beliefs, motivations and fears often go under the radar, and if not considered, can lead to tensions and policy discord, which can undermine education reform and the best intentions of our government.

"Where teachers are not engaged in the design or change, they will rarely help with the implementation of change" (OECD, 2019).

Programmatic determinations on the Integrated Quality Management System (IQMS), Quality Learning and Teaching Campaign (QLTC), Professional Learning Communities, and the development of professional standards for teachers and principals are an effort to build a shared understanding and collective ownership.

As we are moving swiftly into the 6th Administration, we want to realise the elements of a 'new dawn' for teachers underpinned by a merger of collaboration and accountability within an enabling policy climate.

The findings of TALIS, as articulated in this Report, must be shared widely in the Basic Education Sector. I therefore invite all education stakeholders and the broader South African nation to view the results with a sense of ownership and involvement to support the projects, programmes and efforts of the Department of Basic Education, in our mission to deliver quality basic education to all learners.

"Teachers are our greatest public servants; they spend their lives educating our young people and shaping our nation for tomorrow" (Solomon Ortiz).

Mrs M A Motshekga

Minister of Basic Education

ACKNOWLEDGEMENTS

The OECD Teaching and Learning Survey (TALIS) is the outcome of a collaboration among the participating countries and partner countries, the OECD Secretariat, the European Commission and an international consortium led by the International Association of Educational Achievement (IEA).

This TALIS 2018 South Africa Country Report is an adaptation of the OECD TALIS 2018 Results (Volume 1): Teachers and School Leaders as Lifelong Learners. The complete citation of the OECD Report is:

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Chapter 2 was adapted from the OECD TALIS 2018 South Africa Country Note compiled by Dr N Le Donné and Dr M Schwabe.

The Reader's Guide notes and the adapted chapters 3, 4, 5, 6, and 7 in the South Africa Country Report were originally authored by the OECD team of writers (see OECD, 2019 for full list of names and contributors).

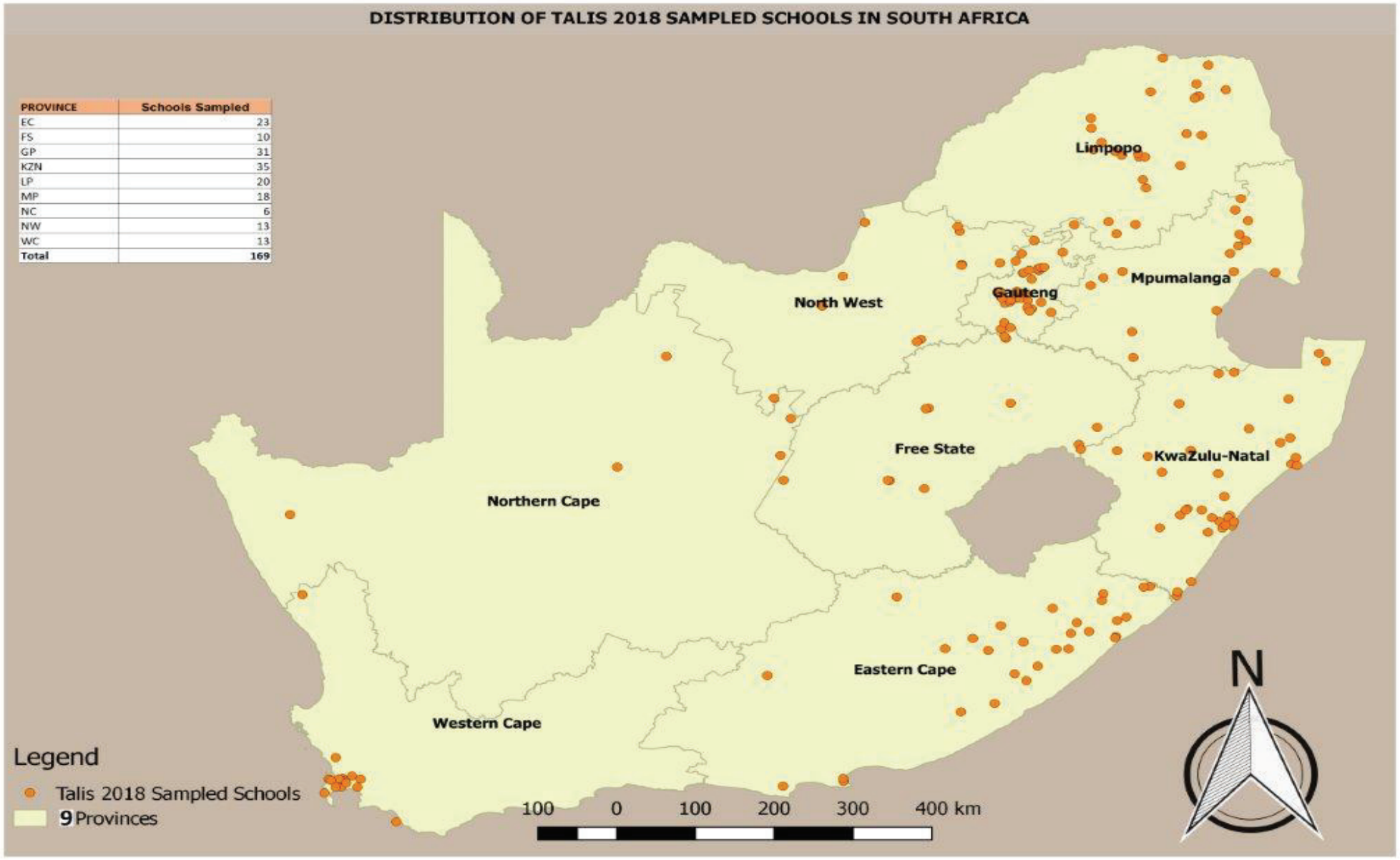
The adaptions for the South Africa Country Note was overseen by Dr M Chetty, the National Project Manager for TALIS and the National Project Team. Adaptations included the introduction, annotations of OECD tables and figures for the local context, as well as graphs and tables covering the national context and the nine provinces. These were generated from the TALIS country data set for South Africa. Members of the National Project Team included: Ms D Mathebe (Administration Manager), Mr J Tshikororo (Data Manager), Ms L Phasha (Sampling Manager), and Ms R Monama (Communication and Logistics Manager). Ms Z Govender, Ms L Maje, Ms H Kekana, and the DBE Communications unit assisted in the compilation of the South African Report

The overall project work and support was overseen by Mr SG Padayachee who is the TALIS Governing Board representative for South Africa.

Contents

DISTRIBUTION OF TALIS 2018 SAMPLED SCHOOLS IN SOUTH AFRICA

PROVINCE	Schools Sampled
EC	23
FS	10
GP	31
KZN	35
LP	20
MP	18
NC	6
NW	13
WC	13
Total	169



Chapter 1:
Introduction

1.1 What is TALIS?

The OECD Teaching and Learning International Survey (TALIS), is an international large-scale survey of teachers, principals and the learning environment in schools. TALIS uses questionnaires administered to teachers and their principals to gather rich data on critical factors affecting them. Its main goal is to generate internationally comparable information relevant to developing and implementing policies focused on principals, teachers and teaching with an emphasis on those aspects that affect learners. A unique feature of the study is that it affords teachers and principals a voice on educational policy analysis and development in key areas.

Teachers and principals are seen as frontline actors in rapidly changing education contexts, so it is important for them to share their opinions and input on policy matters and interventions affecting them.

The overall objective of TALIS is to provide robust international indicators and policy-relevant analysis on teachers and teaching in a timely and cost-effective manner. More specifically, TALIS must serve the goals of three main beneficiaries: policy makers, education practioners and researchers. First, it must help policy makers review and develop policies that promote the teaching profession and the best conditions for effective teaching and learning. Secondly, TALIS must also help teachers, principals, and education stakeholders to reflect upon and discuss their practice and find ways to enhance it. Thirdly, TALIS must build upon past research while informing the future work of researchers.

The TALIS study is a collaboration between participating countries and economies, the OECD, an international research consortium, teachers' unions and the European Commission. The first cycle of TALIS was conducted in 2008 and the second one was in 2013. The 2008 survey focused on lower secondary education and involved 24 countries. During first survey in 2008 school leaders in approximately one third of the participating schools reported a shortage of qualified well-performing teachers hindered the schools' capacity to provide quality education. Teachers also indicated they needed more training in information and communication technology (ICT), special needs education, and teaching in diverse settings.

In the 2013 survey, the 34 countries that participated found that professionals whose initial education included content, pedagogy and practice elements specifically for the subjects that they teach felt better prepared for their work than the teachers without this kind of training. This was relevant information for systems of initial teacher preparation in all countries. The third round of TALIS in 2018 was the largest research study on teachers involving 260 000 teachers from 15 000 schools representing almost 8 million teachers.

In the 2018 survey, South Africa, was the only country from the African continent from the 48 countries that participated in the study. Following the completion of the questionnaire data, South Africa also participated in the international TALIS Video Study. Teachers and principals were interviewed about teaching and learning conditions to improve teaching methodology in the classroom. The OECD and the DBE will use these videos collected in participating countries to illustrate findings from the TALIS survey, and feature teachers and school principals from around the world speaking about concrete aspects of their work. The study will significantly add to research data of the international benchmark studies (TIMSS, PIRLS, and SEACMEQ) and Systemic Evaluations conducted in South Africa, The findings of the study are presented in this Report.

1.2 Notes for the Reader

Country coverage

This Report features results on teachers and schools principals working in schools providing lower secondary education (ISCED Level 2) in 48 countries and economies as well as in 1 sub-national entity (the Flemish Community of Belgium) that opted for its data to be adjudicated. In tables, countries and economies are ranked in alphabetical order. Countries that have not met TALIS standard participation rates are placed at the bottom of the tables.

Classification of levels of education

The classification of levels of education is based on the International Standard Classification of Education (ISCED). ISCED is an instrument for compiling statistics on education internationally. ISCED-97 was recently revised, and the new International Standard Classification of Education (ISCED 2011) was formally adopted in November 2011 and is now the basis of the levels presented in this publication. It distinguishes among eight levels of education:

- Early childhood education (ISCED level 0)
- Primary education (ISCED level 1)
- Lower secondary education (ISCED level 2)
- Upper secondary education (ISCED level 3) - Below NSC/Matric
- Post-secondary non-tertiary level of education (ISCED level 4) - NSC/Matric
- Short-cycle tertiary education (ISCED level 5) - National Diploma (3 years)
- Bachelor's or equivalent level (ISCED level 6) - Degree
- Master's or equivalent level (ISCED level 7) – (Honours)/ Masters
- Doctoral or equivalent level (ISCED level 8). – Doctorate

In the South African context …

Reporting teacher data

The report uses "teachers" as shorthand for the TALIS target population of lower secondary teachers. TALIS covers teachers who, as part of their regular duties in a target school, provide instruction in programmes at the ISCED 2 level (lower secondary education). "Primary teachers" refer to teachers providing instruction in programmes at the ISCED 1 level. "Upper secondary teachers" refer to teachers providing instruction in programmes at the ISCED 3 level.

Reporting principal data

The report uses "principals" and "school leaders" as equivalent shorthand for the TALIS target population of lower secondary principals. School principals provided information on their schools' characteristics and their own work and working conditions by completing a principal questionnaire. Where responses from school principals are presented in this publication, they are usually weighted so that they are proportionate to the number of teachers providing instruction at a given ISCED level in the school. In some cases, principal responses are treated as attributes of the teachers' personal working conditions. In such cases, principal answers are analysed at the teacher level and weighted by the teacher weights.

International averages

The OECD and TALIS averages correspond to the arithmetic mean of the respective country estimates. They are calculated for most indicators based on the main survey data (ISCED 2 level) presented in this report. The European

Union average, called “EU total”, takes the European Union Member States as a single entity, to which each country contributes in proportion of the estimated size of the population. It can be used to assess how a country compares with the European Union as a whole.

The system-level estimates of countries that have not met the TALIS standards participation rates are excluded from the international averages. This is the case for the estimates based on the responses of lower secondary principals in Australia.

In the case of some countries, data may not be available for specific indicators, or specific categories may not apply. Readers should, therefore, keep in mind that the terms “OECD average”, “TALIS average” and “EU total” refer to the countries included in the respective averages. Each of these averages may not be necessarily consistent across all columns of a table.

The number of countries or economies included in an international average is indicated next to that average:

For example,

OECD average-31: arithmetic average based on ISCED 2 teacher data across 31 OECD countries and economies with adjudicated data. The report refers to the average teacher “across the OECD” as equivalent shorthand for the average teacher “across the 31 OECD countries and economies participating in TALIS”.

TALIS average-48: arithmetic average based on ISCED 2 teacher data across 48 TALIS 2018 countries and economies with adjudicated data.

Data underlying the figures

Four symbols are used to denote non-reported estimates:

“a”: The question was not administered in the country because it is optional or it is part of a questionnaire from a TALIS cycle the country has not participated in. Data are, therefore, missing.

“c”: There are too few or no observations to ensure the confidentiality of respondents and/or to provide reliable estimates (i.e. there are fewer than 10 schools and/or 30 teachers; and/or there are more than 50% of item non-response).

“m”: These data were collected but subsequently removed for technical reasons as part of the data checking process (e.g. translation issue).

“p”: These data were collected but subsequently removed for technical reasons as part of the data adjudication process (e.g. because of low participation rate).

“w”: Data have been withdrawn or have not been collected at the request of the country concerned.

Rounding figures

Because of rounding, some figures in tables may not add up exactly to the totals. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation.

All standard errors in this publication have been rounded to one or two decimal places. Where the value 0.0 or 0.00 is shown, this does not imply that the standard error is zero, but that it is smaller than 0.05 or 0.005, respectively.

Focusing on statistically significant differences

This volume only comments on statistically significant differences or changes. These are denoted in darker colours in figures and in bold font in tables. See Annex B for further information.

Abbreviations

ISCED	International Standard Classification of Education
Dif.	Point difference
% dif.	Percentage-point difference
ICC	Intra-class correlation coefficient
ICT	Information and Communications Technology
S.D.	Standard deviation
S.E.	Standard error

Further technical documentation

For further information on the TALIS instruments and the methods used in TALIS, see the TALIS 2018 Technical Report (OECD, forthcoming).

The OECD has also provided a StatLinks service that provides tables and data mentioned in this Report.

Structure of the Report

In this Report, Chapter 1 provides the reader with an introduction to TALIS and a reader's guide with descriptive noted. In Chapter 2, a summary of the key findings for South Africa from TALIS 2018 is presented. Chapter 3 provides details the implications for policy that can be extracted from the third round of TALIS. Chapters 4 and 5 look at how teachers and principals continuously adjust their practices to changing times and how they best support students in the development up-to-date cognitive and socio-emotional skills in our changing world. The last two chapters of this volume examine how initial training (Chapter 6) and continuous professional development (Chapter 7) could enhance the knowledge base dimension of teachers' and school leaders' professionalism to drive the success of teaching and learning. A conclusion is presented in Chapter 8.

Chapter 2:

SOUTH AFRICA – Summary of Key Findings

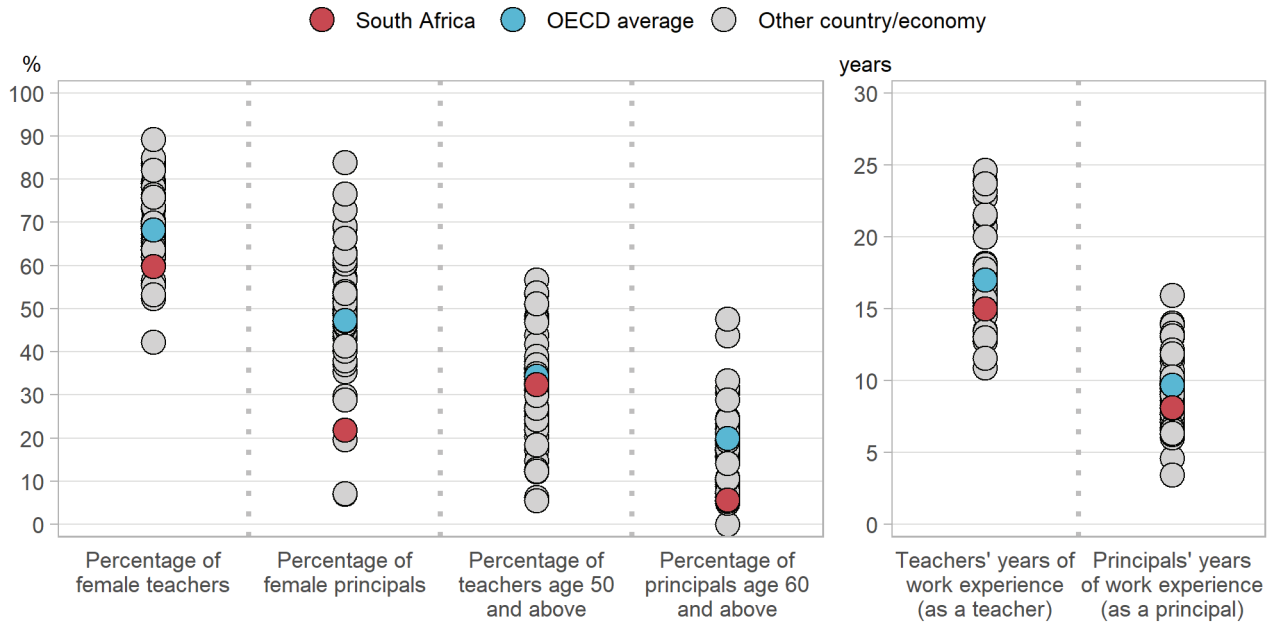
The OECD Teaching and Learning International Survey (TALIS) is an international, large-scale survey of teachers, school leaders and the learning environment in schools. This chapter presents findings based on the reports of lower secondary teachers and their school leaders in mainstream public and private schools in South Africa.

2.1 Who are today's principals and teachers and the students in their classrooms?

1. Teaching was the first-choice career for 49% of teachers in South Africa, which is the lowest share of teachers among all countries and economies participating in TALIS (OECD average 67%). In terms of why they joined the profession, at least 97% of teachers in South Africa cite the opportunity to influence children's development or contribute to society as a major motivation. Fewer but still many teachers considered the economic characteristics and the working conditions of the profession as important motivating factors to join the profession, in particular the fact that teaching offered a steady career path (rated as important by 90% of teachers in South Africa, compared to 61% on average in the OECD).

Figure 1. Socio-demographic and experience profiles of teachers and school leaders

Results based on responses of lower secondary teachers and principals



Note: Only countries and economies with available data are shown.

Source: OECD, TALIS 2018 Database, Tables I.3.17, I.3.21, I.3.1, I.3.5, I.3.9 and I.3.13.

2. In South Africa, teachers are, on average, 43 years old, which is lower than the average age of teachers across OECD countries and economies participating in TALIS (44 years old). Furthermore, 32% of teachers in South Africa are aged 50 and above (OECD average 34%). This means that South Africa will have to renew about one out of three members of its teaching workforce over the next decade or so, under the assumption that all other parameters remain constant.

3. In South Africa, principals are, on average, 51 years old, which is lower than the average age of principals across OECD countries and economies participating in TALIS (52 years old). Furthermore, 6% of principals in South Africa are aged 60 and above, compared to 20% on average across the OECD.

4. Information about the gender distribution of the teacher and principal workforces makes it possible to gauge the degree of gender imbalance in the teaching profession and of gender disparities in the scope for promotion to leadership positions. In South Africa, only 22% of principals are women, compared to 60% of teachers. This can be benchmarked against the OECD averages of 47% of women among school leaders and 68% among teachers.

5. In terms of classroom environments, relations between students and teachers are positive overall, with 85% of teachers in South Africa agreeing that students and teachers usually get on well with each other. And 82% of teachers report that they can rely on each other, which is lower than the average across OECD countries and economies participating in TALIS (87%).

6. Among all countries and economies participating in TALIS, South Africa is the country where school safety incidents occur the most frequently and under several different forms, according to school leaders. One out of three principals (34%) report that acts of intimidation or bullying among their students occur at least weekly in their school, which is more than double the OECD average (14%). In addition, about one out of four principals report weekly incidents relative to the use or possession of drugs and/or alcohol at school (South Africa 27%; OECD average 1%) and vandalism and theft (South Africa 21%; OECD average 3%), which are comparatively very infrequent in other countries.

7. In addition to frequent safety problems, school principals in South Africa report significant material resource shortages hindering the school's capacity to provide quality instruction. The two most frequently reported shortages by school principals' concern library materials (70% so report; OECD average 16%) and digital technology for instruction (65%; OECD average 25%). In addition, two other important resource shortages are reported quite frequently: 56% of principals report a shortage of physical infrastructure (OECD average 26%) and 60% report a shortage of support personnel (OECD average 33%).

8. In South Africa, many schools are particularly diverse with regard to students' linguistic background: 60% of teachers work in schools with more than 10% of students whose first language is not the language of instruction (OECD average 21%). In contrast, in South Africa, 11% of teachers work in schools where at least 10% of the students have a migrant background (OECD average 17%). At the same time, 91% of school leaders report that their teachers believe that children and young people should learn that people of different cultures have a lot in common (OECD average 95%).

9. In addition, 71% of teachers work in schools with over 30% of socio-economically disadvantaged students, according to principals, which is a lot higher than the OECD average of 20%. This pattern signals high levels of poverty and/or inequality in the country.

2.2 What practices are teachers using in the classroom?

10. Among the range of instructional practices, TALIS asks teachers about, those aimed at clarity of instruction are widely applied in South Africa, as well as across the OECD countries and economies participating in TALIS. For instance, 87% of teachers report frequently explaining how new and old topics are related (OECD average 84%). Yet, classroom management practices are more common in South Africa, with 84% of teachers reporting frequently calming students who are disruptive (OECD average 65%).

11. Practices involving student cognitive activation, which are known to be important for student learning, are less widespread, with about half of teachers using these methods across the OECD. Specifically, in South Africa, 54% of teachers report frequently asking students to decide on their own procedures for solving complex tasks, compared to 45% on average across the OECD.

12. During a typical lesson, teachers spend 66% of classroom time on actual teaching and learning, on average in South Africa, which is lower than the OECD average of 78%. Actual teaching and learning time is lower in schools with high concentrations of students from socio-economically disadvantaged homes compared to schools with low concentrations. In South Africa, the difference amounts to 6 percentage points the equivalent of more than 3 minutes of actual teaching and learning per 60-minute hour.

13. In South Africa, 86% of teachers routinely assess their students' progress by observing them and providing immediate feedback (OECD average 79%), at the same time 83% of teachers report administering their own assessments to their students (OECD average 77%) and 52% of teachers frequently let students evaluate their own progress (OECD average 41%).

14. Overall, a vast majority of teachers and school leaders view their colleagues as open to change and their schools as places that have the capacity to adopt innovative practices. In South Africa, 76% of teachers also report that they and their colleagues support each other in implementing new ideas. This is not significantly different from the average share across the OECD countries and economies participating in TALIS (78%).

2.3 How are teachers and school leaders prepared for their roles?

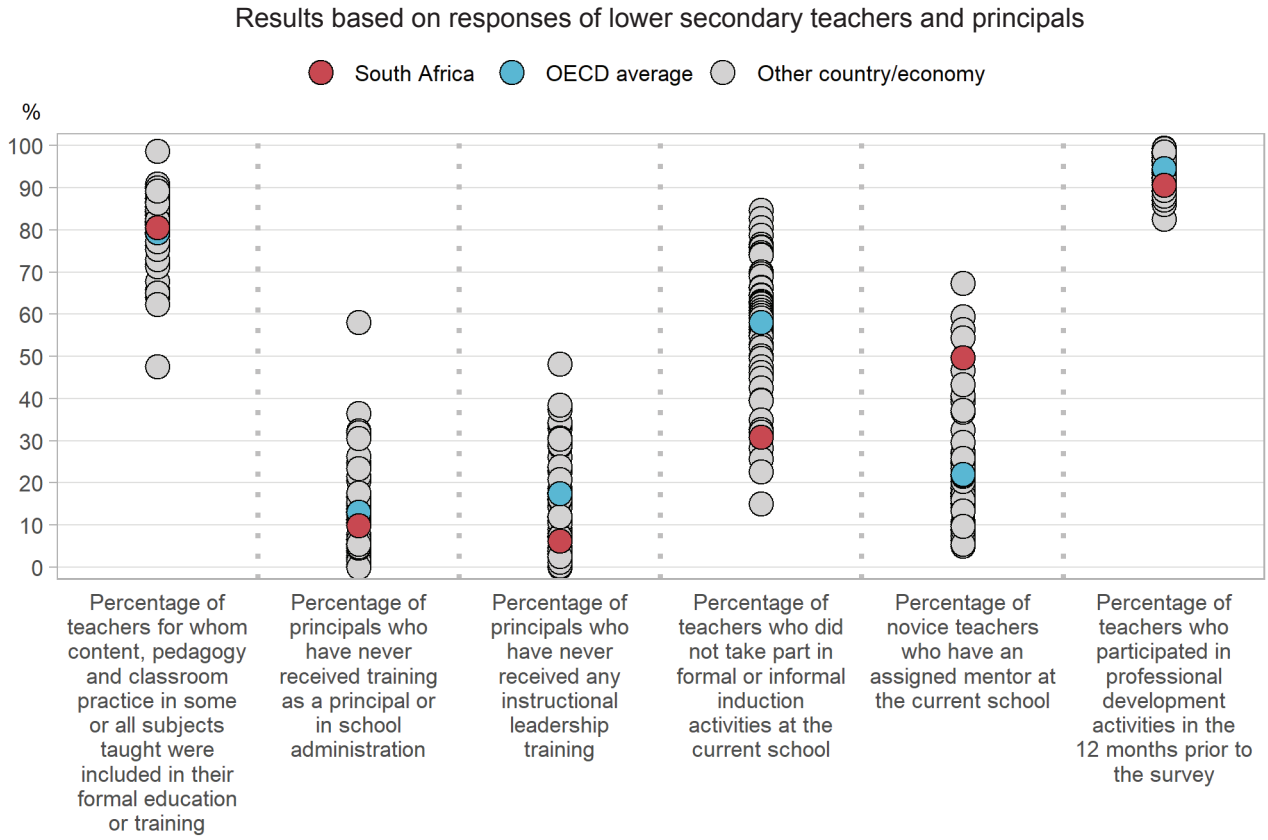
15. Teachers' typical educational attainment is higher than that of the general adult population in South Africa, but lower than in any other country or economy participating in TALIS. More than one out of two teachers (56%) have completed a short-cycle tertiary programme (OECD average 3%), while one out of four teachers in South Africa have not completed any tertiary education (South Africa 24% and OECD average 2%). However, about one out of five teachers have a Bachelor's (18%), Master's or (2%) or a doctoral or equivalent qualification (less than 1%).

16. During their initial education and training, 81% of teachers in South Africa were instructed on subject content, pedagogy and classroom practice – a share that is not significantly different from the average of OECD countries and economies participating in TALIS (79%). In South Africa, 69% of teachers report having participated in some kind of formal or informal induction when they joined their current school, compared to 42% of teachers across OECD countries and economies participating in TALIS.

17. While school principals across the OECD generally consider mentoring to be important for teachers' work and students' performance, 22% of novice teachers (with up to 5 years of experience) have an assigned mentor. In South Africa, this share amounts to 50%.

18. On average across the OECD, school leaders usually have a higher level of educational attainment than teachers. However, only half of them complete a training course or programme for principals at least once before taking up their position as principal. In South Africa, 52% of school leaders have completed a programme or course in school administration or training for principals (OECD average 54%), and 54% have completed an instructional leadership training programme or course (OECD average 54%), before taking up their position as principal.

Figure 2. Initial and continuous training



Note: Only countries and economies with available data are shown.

Source: OECD, TALIS 2018 Database, Tables I.4.14, I.4.28, I.4.39, I.4.64, I.5.2 and I.5.10.

2.4 How do teachers and school leaders keep up-to-date in their profession?

19. Taking part in some kind of in-service training is commonplace among teachers and principals in South Africa, with 91% of teachers (OECD average 94%) and 96% of principals (OECD average 99%) attending at least one professional development activity in the year prior to the survey.

20. Attending courses and seminars is one of the most popular types of professional development for teachers across the OECD. In South Africa, 71% of teachers participate in this kind of training (OECD average 76%). At the same time 67% of teachers participate in training based on peer learning and coaching (OECD average 44%). It is interesting to note that teachers, across the OECD, report that professional development based on collaboration and collaborative approaches to teaching is among the most impactful for them.

21. Teachers in South Africa appear satisfied with the training they received, as 88% report that it had a positive impact on their teaching practice, a share that is higher than the average of OECD countries and economies participating in TALIS (82%). It is also true that teachers who report participating in such impactful training tend to display higher levels of self-efficacy and job satisfaction. The association is particularly strong South Africa.

22. On average across the OECD, among those teachers reporting that their training had a positive impact, some also reported that such impactful training tended to have four elements: 1) it built on the teacher's prior knowledge (91%); 2) it adapted to the teacher's personal development needs (78%); 3) it had a coherent structure (76%); and 4) it focused on content needed to teach the teacher's subjects (72%). South Africa is one of the TALIS countries and economies with the highest share of teachers reporting these four content-related characteristics as part of their impactful training.

23. But some areas of professional development are still lacking, according to teachers. Across the OECD, developing advanced ICT skills is one area in which teachers say that they need more training, along with teaching in multicultural/multilingual settings and teaching students with special needs. Among these three areas, teachers in South Africa expressed a particularly high need for training in teaching students with special needs (39%) and in teaching in a multilingual and multicultural setting (20%).

2.5 Teaching students with diverse ability levels and needs

24. On average in South Africa, 29% of teachers work in classes with at least 10% of students with special needs (i.e. those for whom a special learning need has been formally identified because they are mentally, physically, or emotionally disadvantaged), which is not significantly different from the average of OECD countries and economies participating in TALIS (27%).

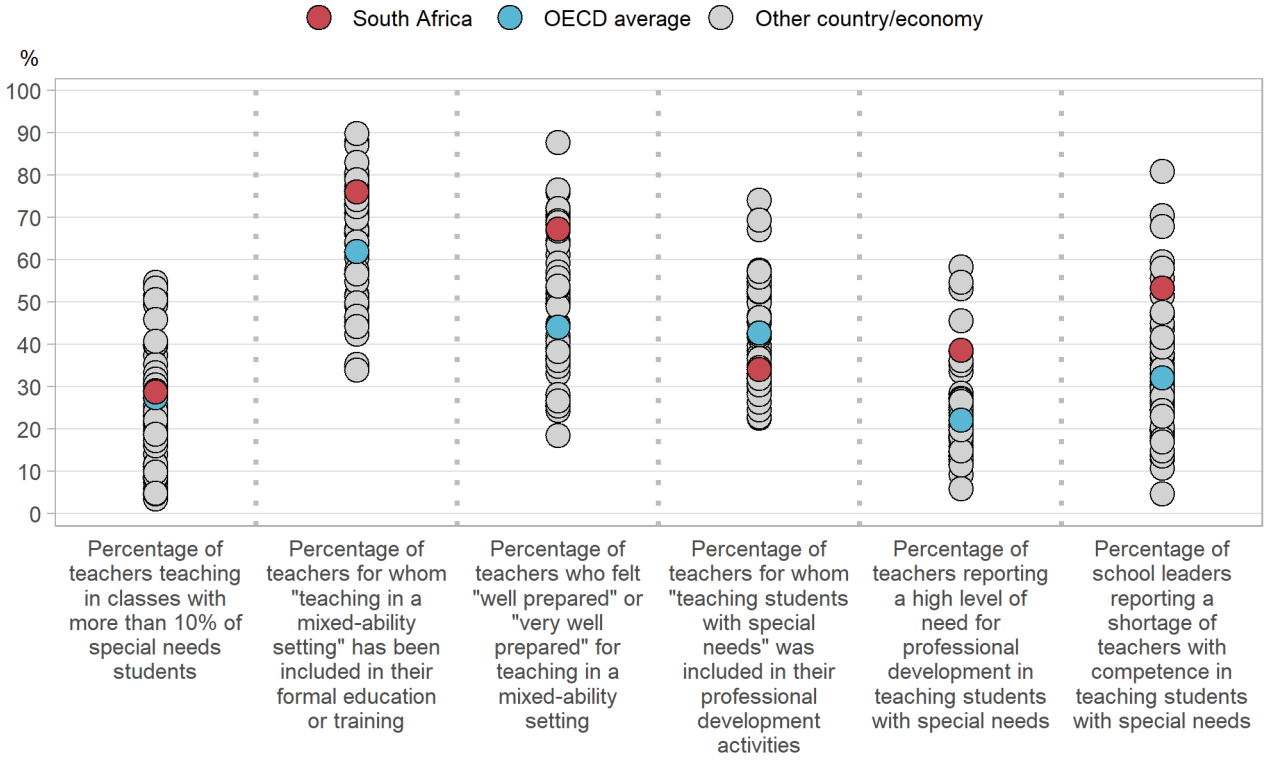
25. In South Africa, 76% of teachers were trained to teach in mixed-ability settings as part of their formal teacher education or training, while 67% of teachers on average felt prepared to teach in such settings when they finished their studies.

26. Furthermore, although 34% of teachers on average participated in professional development activities including teaching students with special needs in the 12 months prior to the survey, training in teaching special needs students is the professional development topic with the highest percentage of teachers reporting a high need for it – 39% in South Africa (compared to 22% across the OECD).

27. On average in South Africa, 53% of school principals report that delivery of quality instruction in their school is hindered by a shortage of teachers with competence in teaching students with special needs (compared to 32% across the OECD).

Figure 3. A snapshot of teaching students with diverse ability levels and needs

Results based on responses of lower secondary teachers and principals



Note: Only countries and economies with available data are shown.

Source: OECD, TALIS 2018 Database, Tables I. 3.28, I. 4.13, I. 4.20, I. 5.18, I. 5.21 and I. 3.63.

2.6 Teaching in multicultural or multilingual settings

28. On average in South Africa, 62% of teachers work in classes with at least 10% of students whose first language is different from the language of instruction, which is the highest share across OECD countries and economies participating in TALIS (18%).

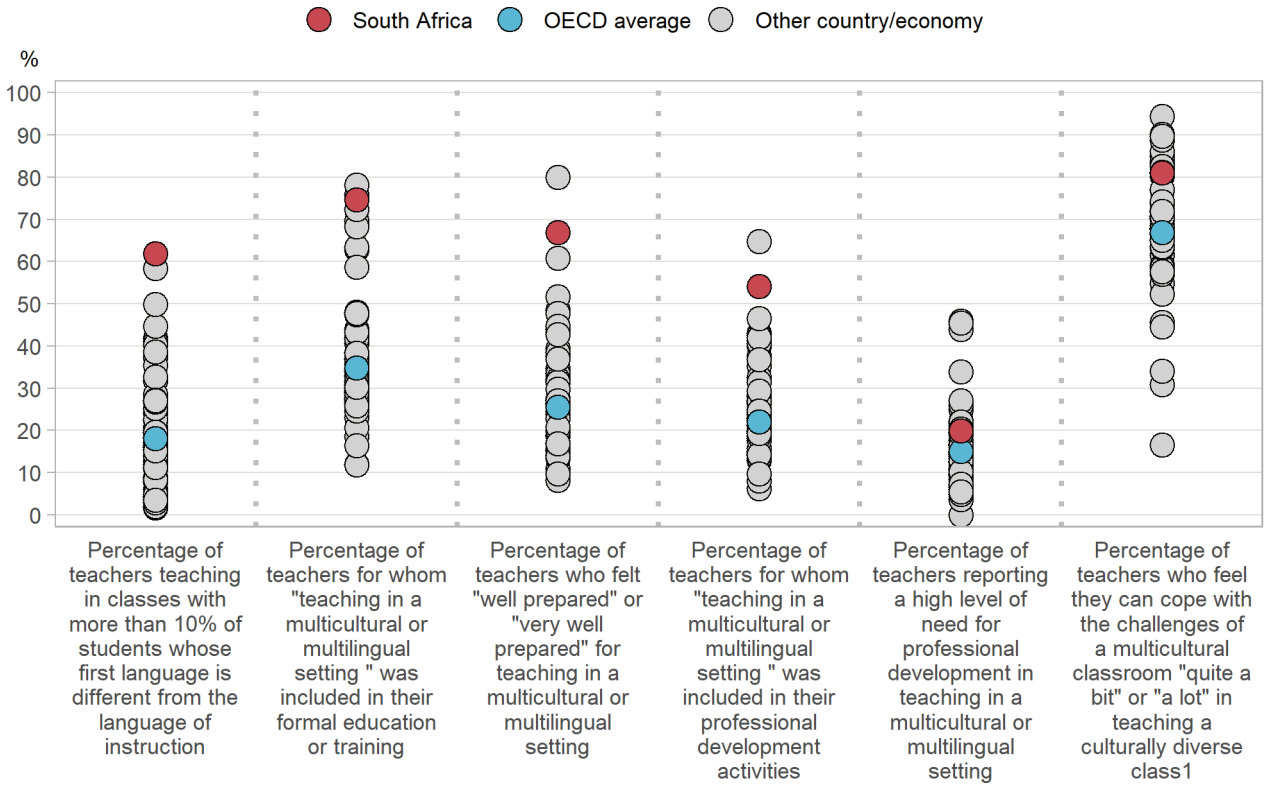
29. In South Africa, 75% of teachers were trained to teach in a multicultural or multilingual setting as part of their formal teacher education or training, while 67% of teachers on average felt prepared to teach in such settings when they finished their studies.

30. Furthermore, although 54% of teachers on average participated in professional development activities including teaching in a multicultural or multilingual setting in the 12 months prior to the survey, training in teaching in a multicultural or multilingual setting is the second professional development topic with the highest percentage of teachers reporting a high need for it – 20% in South Africa (compared to 15% across the OECD).

31. However, on average in South Africa, 81% of teachers feel they can cope with the challenges of a multicultural classroom “quite a bit” or “a lot” in teaching a culturally diverse class (compared to 67% across the OECD).

Figure 4. A snapshot of teaching in multicultural or multilingual settings

Results based on responses of lower secondary teachers and principals



Note: Only countries and economies with available data are shown.

Source: OECD, TALIS 2018 Database, Tables I.3.28, I.4.13, I.4.20, I.5.18, I.5.21 and I.3.38.

2.7 Key features of TALIS 2018

32. TALIS uses questionnaires administered to teachers and their school principals to gather data. Its main goal is to generate internationally comparable information relevant to developing and implementing policies focused on school leaders, teachers and teaching, with an emphasis on those aspects that affect student learning. It gives a voice to teachers and school leaders, allowing them to provide input into educational policy analysis and development in key areas.

33. First, TALIS helps policy makers to review and develop policies that promote the teaching profession and the best conditions for effective teaching and learning. Second, TALIS helps teachers, school leaders, and education stakeholders to reflect upon and discuss their practice and find ways to enhance it. Third, TALIS builds upon past research, while informing the future work of researchers.

34. Nine main themes were selected for inclusion in the TALIS 2018 survey: teachers' instructional practices; school leadership; teachers' professional practices; teacher education and initial preparation; teacher feedback and development; school climate; job satisfaction; teacher human resource issues and stakeholder relations; and teacher selfefficacy. Two cross-cutting themes were added to this list: innovation; and equity and diversity.

35. The international target population for TALIS is composed of lower secondary teachers and their school leaders in mainstream public and private schools. TALIS 2018 offered three additional options: 15 countries and economies also surveyed teachers and school leaders in their primary schools (ISCED level 1), 11 countries and economies did so in their upper secondary schools (ISCED level 3) and 9 countries and economies conducted the survey in schools that participated in the 2018 OECD Programme for International Student Assessment (PISA).

36. In each country, a representative sample of 4 000 teachers and their school principals from 200 schools was randomly selected for the study. Across all survey components, approximatively 260 000 teachers responded to the survey, representing more than 8 million teachers in 48 participating countries and economies. In South Africa, 2 046 lower secondary teachers and 169 principals completed the TALIS questionnaires.

37. TALIS 2018 findings will be released in two volumes. The first volume, *Teachers and School Leaders as Lifelong Learners*, published on 19 June 2019, explores the knowledge and skills dimension of teachers and school leaders' professionalism. The second volume, *Teachers and School Leaders as Valued Professionals*, to be published in early 2020, will focus on prestige, career opportunities, collaborative culture and responsibility and autonomy.

Notes

References

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

For more information on TALIS 2018 visit http://www.oecd.org/education/talis/

Data can be found also on line by following the StatLinks under the tables and charts in the publication.

Explore, compare and visualise more data and analysis using: http://gpseducation.oecd.org/.

Questions can be directed to:

TALIS team

Directorate for Education and Skills

TALIS@oecd.org

Country note authors:

Noémie Le Donné and Markus Schwabe

Directorate for Education and Skills

Noemie.LEDONNE@oecd.org

Markus.SCHWABE@oecd.org

Chapter 3:
What TALIS 2018 Implies for Policy

This chapter introduces the theoretical framework of the TALIS 2018 Results report, presents the main findings from the first volume and provides related policy pointers.

3.1 Professionalism of teachers and school leaders

38. Teachers and school leaders are at the centre of any attempt to improve the quality of education. Decades of research have found that teachers and school leaders shape the quality of instruction, which strongly affects students' learning and outcomes (Barber and Mourshed, 2009[1]; Darling-Hammond, 2017[2]; OECD, 2018[3]). As a result, education systems have sought how to: 1) attract high-achieving candidates into the profession; 2) provide quality initial and continuous training to new recruits and in-service teachers; 3) support teachers in the continuous development of their craft and spread good practices and 4) foster job satisfaction and the status of the profession with a view to retaining quality teachers and school leaders (OECD, 2005[4]).

39. The debates around attracting and developing teachers, improving their working conditions and supporting instructional quality have increasingly become interwoven with discussions about the professional status of teachers and school leaders (Darling-Hammond, 2017[2]). Often, the concept of professionalism is confused with the notion of the status of an occupation, in particular its position within a hierarchy of occupations. For example, in many national contexts, teaching is perceived to have lower status and prestige than other occupations that are equally relevant for the functioning and reproduction of society, such as medicine, law and engineering (Guerriero, 2017[5]).

40. Beyond the notion of status, professionalism refers to the concrete actions taken to make an occupation as distinctive as possible by defining a unique set of knowledge and skills that can only be performed by those who have been trained for it (Guerriero, 2017[6]). From a historical perspective, professionalism has touched on expert judgement and autonomous decision-making, construction of a specialised body of knowledge and skills, and the collegial nature of a professional community regulated by clear standards (Evans, 2008[7]). Professionalism consists of a series of attributes that not only regulate the aims and actions of a particular profession, but also define what should be expected of all individuals belonging to it. These attributes stand as the basis for the status, recognition and accountability of the teaching profession (Guerriero, 2017[6]).

41. The professionalism of teaching has been largely discussed in past research (Ingersoll and Merrill, 2011[8]; Price and Weatherby, 2018[9]; Rowan, 1994[10]) and in OECD publications (Guerriero, 2017[6]; OECD, 2016[11]; Schleicher, 2018[12]), with each study offering a slightly nuanced concept of the dimensions of teaching as a profession. Over the years, the debates about professionalism have examined a number of key attributes that characterise teachers or school leaders as professionals: 1) individual and collective mastery of a core knowledge base; 2) development and use of specific skills; 3) applying expert judgement in their everyday settings; 4) having autonomy to make decisions; 5) quality initial and continuous training; 6) collegial work with other members of the profession; 7) self-regulation of a collegial body based on standards; 8) ethical dimension underpinned by a sense of public service and social responsibility; and 9) prestige and status of the profession, which mainly derives from the existence of the other attributes.

42. The demands on teachers and school leaders are high and growing. Teachers are expected to have a deep and broad understanding of what they teach and the students they teach, an understanding of the research-theory-practice nexus and the inquiry and research skills that allow them to become lifelong learners and grow in their profession. But, teachers today are increasingly expected to perform additional tasks, such as facilitating the development of students' non-cognitive skills, responding to students' individual differences and working collaboratively with other teachers and parents to ensure the holistic development of their students. The demands on school leaders are also mounting. School leaders are not only expected to lead the administration and management of their school but also to create conditions that lead to improved teaching and learning, such as developing school improvement plans, encouraging teachers' collaboration and participation in effective professional development, counselling students and parents about student progress and student orientation, and connecting the school to a larger network of schools and to the local community.

43. To build professional profiles of teachers and school leaders able to respond to these challenges and demands, it is imperative that countries and economies engage in a systematic collection of empirical evidence on the key dimensions and indicators of the professionalism of teachers and school leaders in their education systems. Policy decisions based on empirical research evidence are among the greatest attributes of highly successful education systems. To this end, the third cycle of the Teaching and Learning International Survey (TALIS 2018), conducted by the OECD in 48 countries and economies, offers the opportunity for teachers and school leaders to provide input into education analysis and policy development. Cross-country analysis of TALIS 2018 data allows countries to identify other education systems that face similar challenges and to learn from other policy approaches.

44. TALIS defines teachers as those who, as part of their regular duties in a target school, provide instruction in programmes at a given educational level. Target schools are defined as schools that comprise at least one teacher. Principals are defined as heads of the target schools. In these definitions, active delivery of instruction is considered the core and common element of the mission of schools and the work of teachers, both within and across countries. Compared to the rich and animated debate on what defines the occupations of teachers and school leaders, the definitions used in TALIS are extremely simple. Yet, through the breadth and depth of indicators it collects on their profiles, practices and beliefs, training, working conditions, TALIS can strongly contribute to the debate about teaching as a profession (Guerriero, 2017[6]; Ingersoll and Merrill, 2011[8]) and help identify levers to enhance the degree of professionalism of teachers and school leaders worldwide.

45. The two-volume report on the results of the third cycle of TALIS aims to contribute to this debate by tackling the "professionalism framework" through the indicators available in TALIS. Within the scope of TALIS, teaching can be considered a profession underpinned by four pillars:

1. the dimension of the knowledge and skills base, which includes shared and specialised knowledge, as well as standards for access to the profession and development of specific skills through pre-service training and in-service professional development
2. the dimension of status and standing of the profession, captured through the ethical standards expected from professional workers, the intellectual and professional fulfilment of the job, and the working regulations applying to teaching, such as reward structures on par with professional standards and room for career progression within the profession
3. the dimension of peer control, which relies upon self-regulated and collegial professional communities, providing opportunities for collaboration and peer feedback to strengthen professional practices and the collective identity of the profession
4. the dimension of responsibility and autonomy, which is captured through the degree of autonomy and leadership that teachers and school leaders have in their daily work, both to make decisions and apply expert judgement, and to inform policy development at all levels of the system so that professionalism can flourish.

46. Using these four pillars, this report takes stock of existing classifications and has adapted and expanded them to the new analytical potential of TALIS 2018 instruments.

47. Using TALIS 2018 data, the outcomes of teachers' and school leaders' professionalism can be measured through indicators ranging from subjective factors (such as self-efficacy in various areas of teaching, needs for professional development, job satisfaction, levels and sources of stress experienced in the job) to more fact-based factors (such as teachers' level of education, participation in professional development, type of work contract and rates of absenteeism). Although TALIS collects information on both teachers and school leaders, its analyses offer greater depth and a more complete picture for teachers than for school leaders. This is due to the larger sample size for teachers, but also the TALIS mandate to focus on teachers' working conditions, learning environments and practices that can make a difference to support student learning.

What TALIS 2018 Implies for Policy

48. The first volume of the TALIS 2018 report, *Teachers and School Leaders: Lifelong Learners*, focuses on the first pillar of professionalism for teachers and school leaders: the dimension of knowledge and skills in their work. Any profession needs to have a specialised set of knowledge and skills that makes it distinctive and from which practitioners draw their legitimacy and prestige. As the building of knowledge and skills draws on both training and experience, the volume examines the extent to which the landscape of teaching has changed since the 2008 and 2013 cycles of TALIS in terms of the profiles of teachers and school leaders, the profiles of students, and the climate in schools and classrooms. This first volume shows how, throughout initial training and continuous professional development, teachers and school principals refine and adjust their practice and develop their knowledge and skills to help students develop the cognitive and socio-emotional skills and academic knowledge needed in today's changing world. Among other issues, it explores the links between the content and features of initial education and continuous professional development activities and individuals' feelings of preparedness for the job, self-efficacy and job satisfaction. These analyses help to determine to what extent a strong knowledge and skills base supports the work of teachers and school leaders, as well as how and in what areas teachers and school leaders can develop further. The volume also examines teachers' and school leaders' perspectives on school resources issues and priority areas for intervention and additional spending, to give them a voice on those issues as an important first step towards greater leadership and regulation by the profession.

49. In a context where maintaining and/or upgrading the status of the profession is crucial for recruiting and retaining skilled and committed workers, the second volume, *Teachers and School Leaders: Valued Professionals* (planned for release in March 2020) will focus on the other three pillars of teachers' and school leaders' professionalism, those related to the prestige and standing of the profession: room for career advancement; peer control through self-regulated and collegial communities; and responsibility and autonomy. The volume will explore the attitudes of teachers and school leaders towards the profession in general and their own jobs in particular. It will analyse links between the economic characteristics and working conditions of teachers and school leaders, opportunities for collaboration with colleagues, autonomy and leadership opportunities to empower teachers and school leaders.

3.2 TALIS 2018 results and policy pointers

50. This first volume of *TALIS 2018 Results* examines in depth whether teaching is becoming increasingly professionalised, from the viewpoint of the knowledge and skills dimension of professionalism. It also aims to identify the changes necessary to ensure greater professionalisation of teachers and school leaders.

51. Professional knowledge and skills are defined as the set of knowledge and skills that is used by a profession and acknowledged through qualifications and membership. Teachers require advanced or graduate-level education and specialised knowledge of subject matter, pedagogy and classroom management that is typically acquired through participation in initial teacher-training programmes and continuous in-service teacher professional development. Their knowledge and skills are manifested in the planning and implementation of teaching practices in the classroom, along with other professional tasks in the school. As a result, the development of knowledge and skills takes place across diverse stages of teachers' and school leaders' professional pathway (OECD, 2016[13]).

52. Following the stages of the professional pathway of teachers and school leaders (OECD, 2019[14]), this section presents the main policy pointers drawn from the TALIS findings presented in this volume. These policy recommendations concern each of the four steps on the professional pathway: 1) attracting and retaining quality teachers and school leaders; 2) supporting new teachers entering the workforce; 3) supporting the continuous professional growth of teachers and school leaders throughout their careers and 4) promoting quality teaching for every student.

3.2.1 Attracting and retaining quality teachers and school leaders

3.2.1.1 *Aim: To build a motivated and efficient teacher and principal workforce through fulfilling working conditions*

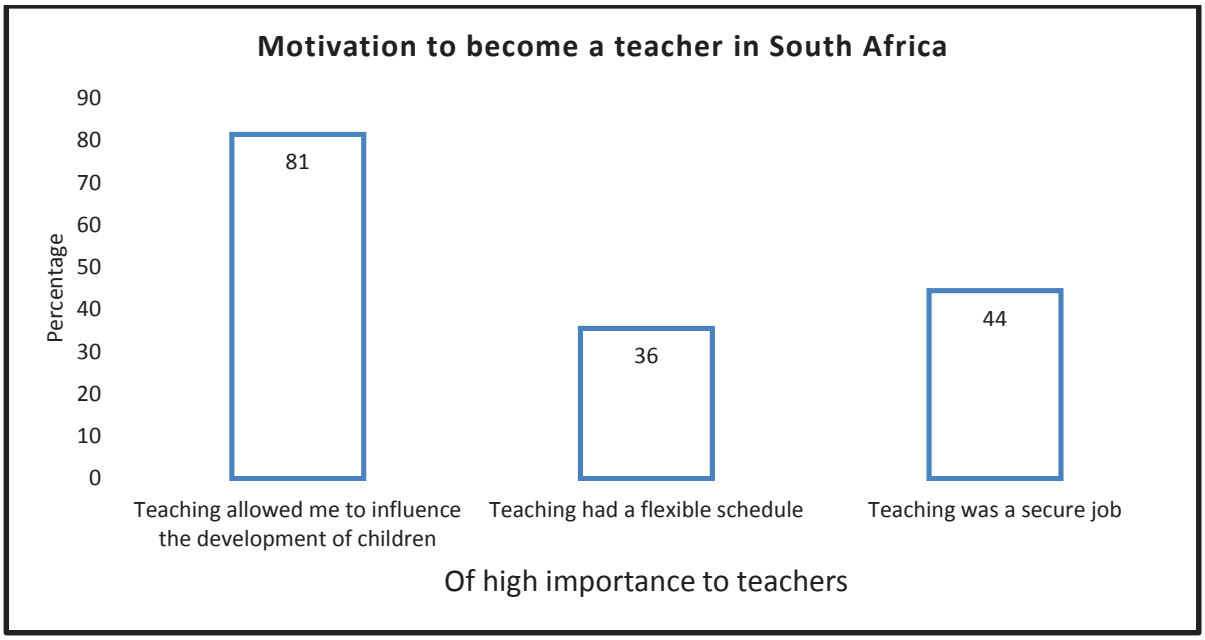
53. According to the OECD's 2005 report, *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*, "If school systems are to ensure a quality teaching workforce, not only will they need to attract able people to the teaching profession they will also need to retain and further develop the teachers currently employed in schools." (OECD, 2005, p. 170[15]). Education systems have the challenge of not only attracting and selecting those displaying an adequate mastery of the knowledge and skills needed for the teaching profession, but also of retaining the teachers and school leaders who have been able to further expand this knowledge, given their experience and/or training.

54. Exploring individuals' motivations to become teachers helps to shed light on the aspects of the job that make the teaching profession attractive. For the first time, TALIS 2018 asks teachers how important certain factors were in their motivation to become a teacher. The most important motivations reported by teachers pertain to a certain sense of self-fulfilment through public service. Across the OECD, around 90% of in-service teachers consider the opportunity to influence children's development and contribute to society a major motivation to join the profession. Furthermore, on average across the OECD, two out of three teachers reported that teaching was their first choice as a career. However, the factors pertaining to the economic characteristics and working conditions of the profession were reported less often: around 60% to 71% of teachers report that the financial package and working conditions of the teaching profession were important to them, well below the share of teachers reporting social utility motivations.

55. Interestingly, the share of teachers reporting that the financial package and working conditions of the teaching profession were important motivations to them is higher in countries where teachers are highly valued in society and their economic status is better than that of other professions. One possible explanation for this pattern could be that in systems where the profession is highly valued, the economic characteristics and working conditions of teachers are objectively better – making these aspects of the job more attractive to prospective candidates. However, another explanation could be that when teachers perceive their profession as undervalued by society, they are more apologetic and less likely to report personal utility motivations. Whichever explanation, this pattern suggests that strengthening professionalism may initiate a virtuous cycle whereby enhanced professionalism translates into better student outcomes, thereby raising the societal value of the profession and the economic rewards of the job, which in turn act as a magnet to attract the next generation of quality candidates to the profession.

56. In South Africa (see figure 3.1), around 81% of teachers consider the opportunity to influence children's development as a major motivation to join the teaching profession. Only 36% of teachers viewed the flexible hours afforded to teachers and the security of the profession as of high importance to join the profession.

Figure 3.1 Motivations of teachers

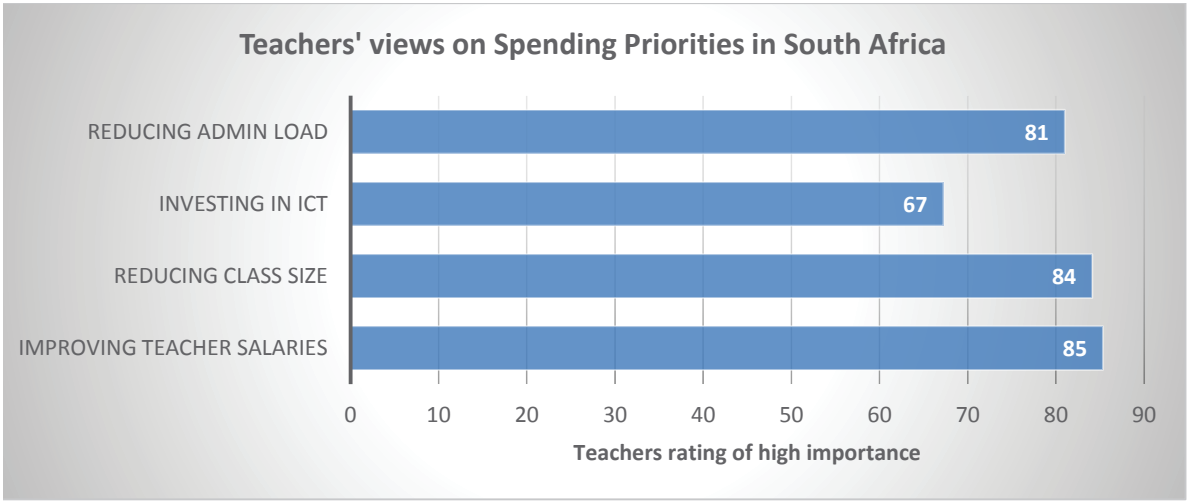


57. OECD teacher policy reviews have shown that working conditions are crucial for the attractiveness of the teaching profession and also for retaining quality teachers (OECD, 2005[15]). Furthermore, the issue of working conditions is likely to become more important once teachers have been teaching for a while. With this in mind, TALIS wants to learn directly from teachers how their working conditions and the teaching-learning nexus could be improved. More specifically, for the first time, TALIS 2018 asks teachers what they think should be the priority areas for intervention and additional spending in education, if the education budget were to increase. As frontline actors of education systems, teachers are, indeed, particularly well positioned to report on resources issues that directly affect their daily work. In this respect, two of the top four priorities identified by teachers are related to recruiting more staff: either more *teachers* ("reducing class sizes by recruiting more staff" is rated "of high importance" by 65% of teachers across the OECD) or more *support staff* ("reducing teachers' administration load by recruiting more support staff" is rated "of high importance" by 55% of teachers), both with a view to helping teachers to focus more on the core of their work: student learning. School leaders' views are consistent with those of teachers. They also strongly consider the "shortage of support personnel" and the "shortage of teachers with competence in teaching students with special needs" to be the two main resource shortage issues hindering the delivery of quality instruction in their schools (reported by one-third of principals across the OECD).

58. With respect to the economic characteristics and financial package of the job, according spending priority to "improving teacher salaries" is also rated highly by teachers in a majority of participating countries and economies. But this is not the case everywhere. In fact, the lower the level of teachers' statutory salaries in a country (expressed in purchasing power parities) or the lower teacher salaries are compared to those of similarly-educated workers, the more teachers consider teachers' salaries a priority of high importance. Regression results also support the notion that, in a number of countries, teachers working in cities (where housing prices and the cost of living are typically higher than in rural areas) display a higher propensity to report salary increases as "highly important" than their peers working in rural areas. And teachers who valued the economic characteristics and the working conditions of the job when they became teachers are also logically more prone to seek salary increases. Thus, TALIS findings suggest that teachers' demands for salary increases display fairly rational behavioural patterns, and that teachers likely consider a range of factors in forming their priorities, including the purchasing power and standard of living that salary levels grant, and how these compare to those of their peers with similar education and how they compare internationally. Teachers seem more likely to prioritise salary increases when their standard of living is lower by international standards.

59. In South Africa, over 80% of teachers rated the recruitment of more teachers in order reduce class size and administration load as well as improving teacher salaries as the key areas for government to prioritise in its budget spend. More than 60% of teachers suggested that there should be further investment in ICT (see figure 3.2).

Figure 3.2: Spending priorities



Policy pointer 1.1: Building on the high level of commitment of the profession and engaging in a dialogue and a process of resource reallocation in partnership with the profession to improve the financial package and working conditions of the teaching profession over time, in line with progress in professionalism

60. The high percentage of teachers with a social utility motivation to enter the profession shows that education systems have an in-service workforce that is highly committed to the public service and social value of the profession. This is a strong asset to engage the profession in a virtuous spiral of positive change and enhanced professionalism.

61. But education systems should not take this high level of commitment for granted and disregard the importance of offering attractive financial packages and working conditions to prospective candidates and in-service teachers. Successful education systems manage to attract candidates who are motivated by both by the social reward of the profession and its capacity to offer attractive salaries and adequate working arrangements. Policy makers and education leaders responsible for human resources need to carefully determine their overall education budget envelope in terms of human resources and methodically decide how to best allocate it between recruitment efforts and salary increases, while promoting the teaching profession as intellectually rewarding by offering high-quality training opportunities.

62. Yet, the reality of public policy is that education budgets typically compete with a range of other public policy priorities, and in most countries, they are unlikely to increase dramatically over short periods of time. In this context, it would seem particularly fruitful for policy makers to engage in a constructive dialogue with the profession on how best to reallocate inevitably limited resources to allow for improving the financial package and working conditions of the teaching profession over time, in line with progress in professionalism. It is acknowledged that such a process may involve rethinking teaching models and the way space, people and time are organised and deployed within the system.

3.2.1.2 *Aim: To support a dynamic workforce*

63. The socio-demographic characteristics of teachers and principals are also a crucial factor to consider when examining the best policies for attracting and selecting candidates. Figure 3.3 provides a snapshot of teachers' and school leaders' socio-demographics in each participating country and economy.

64. Examining the ageing process of the teaching workforce provides an estimation of the number of teachers who

will be retiring in upcoming years. Trends over time in the age and experience profiles of teachers and school leaders provide valuable information on the dynamics of human resources in education. Global trends in their age and experience profiles are rather mixed, but ageing of the teacher population concerns more countries than renewal of the teacher population.

65. Teachers are about 44 years old on average, both across the OECD and across all countries and economies participating in TALIS, ranging from age 36 in Turkey to age 50 in Georgia. Furthermore, 34% of teachers are over age 50 on average across the OECD. Since, on average in the OECD, the pension age is 64.3 for men and 63.7 for women, this means that education systems will have to renew at least one-third of their teaching workforce in the next 15 years (OECD, 2017, p. 93[16]).

66. On average across the OECD, principals are generally older than teachers, with the average age for a principal being 52, eight years older than the average teacher. This is not surprising, as principals are usually recruited from among the ranks of teachers, and their positions often require higher academic credentials and more years of experience. These age patterns mean that policy makers will also face the challenge of renewing the principal workforce and preparing a new generation of school leaders over the next decade or so. The fact that mounting evidence points to the increasingly complex and challenging role of school leaders, with increased workloads and accountability (OECD, 2016[17]; OECD, 2014[18]), will not make this an easy task.

67. TALIS 2018 data show that, on average across the OECD, 68% of all teachers are female, and women make up more than half of the teaching workforce in all participating countries and economies, with the exception of Japan. However, joining the teaching profession is more often a late vocation or occupational reconversion for men than for women, and for individuals wishing to better balance their family responsibilities with their work life.

68. Only 47% of principals are women, compared to 68% of teachers. This suggests significant gender imbalances in the scope for career progression of female teachers from teaching to leadership roles, whether the cause is endogenous (a lesser propensity of women to apply for leadership positions) or exogenous (a lesser propensity for women to be selected for leadership roles). Irrespective of the underlying cause, this pattern goes counter to the objective of enhancing professionalism, due to the limited scope for career progression of more than half of the teaching workforce.

69. In South Africa, the observations from teachers' and school leaders' socio-demographics also point to striking gender gaps both nationally (figure 3.3) and regionally (figure 3.4 and figure 3.5). Nationally, while 60% of the teacher workforce are female, only 22% become principals which is significantly lower than the OECD average (47%). The principal workforce is largely male dominated across the 9 provinces with the ratio of male to female principals in Limpopo standing at 90:10. Almost a third of the teacher workforce are above 50 years old while only 6% of principals are approaching retirement. A high percentage of young principals are located in schools in the Free State province. In terms of work experience, South Africa teachers and principals are on par with their counterparts from the OECD.

Figure 3.3: Teachers' and school leaders' socio-demographics

Countries/economies where indicator is above the OECD average

Countries/economies where indicator is below the OECD average

	Percentage of female teachers	Percentage of female principals	Percentage of teachers aged 50 and above	Percentage of principals aged 60 and above	Teachers' years of work experience (as a teacher)	Principals' years of work experience (as a principal)
Alberta (Canada)	63	30	20	19	13	13
Australia*	62	40	30	19	15	7
Austria	70	50	44	30	18	8
Belgium	69	44	22	7	15	7
- Flemish Comm. (Belgium)	70	40	22	6	16	8
Brazil	69	77	23	10	16	8
Bulgaria	80	73	51	16	22	13
CABA (Argentina)	69	61	36	6	16	8
Chile	65	50	27	20	14	10
Colombia	55	37	34	33	17	13
Croatia	78	53	24	18	15	10
Czech Republic	76	52	37	20	18	12
Denmark	60	35	33	18	15	9
England (UK)	64	41	18	6	13	6
Estonia	84	57	54	21	23	14
Finland	70	46	35	10	16	12
France	65	41	27	19	17	10
Georgia	83	60	53	22	24	11
Hungary	79	63	48	11	21	10
Iceland	73	60	38	18	15	10
Israel	76	50	27	10	16	9
Italy	78	69	48	32	18	10
Japan	42	7	33	22	17	5
Kazakhstan	76	53	27	5	17	9
Korea	67	20	34	44	16	3
Latvia	89	84	51	25	24	14
Lithuania	85	57	57	29	25	16
Malta	70	46	12	8	13	7
Mexico	57	35	25	21	15	10
Netherlands	53	38	32	29	16	12
New Zealand	65	54	35	14	16	8
Norway	64	54	30	16	15	8
Portugal	74	43	47	23	23	11
Romania	73	61	26	9	17	8
Russia	85	69	42	15	21	11
Saudi Arabia	52	51	5	0	13	8

Countries/economies where indicator is above the OECD average

Countries/economies where indicator is below the OECD average

	Percentage of female teachers	Percentage of female principals	Percentage of teachers aged 50 and above	Percentage of principals aged 60 and above	Teachers' years of work experience (as a teacher)	Principals' years of work experience (as a principal)
Shanghai (China)	74	45	15	5	17	10
Singapore	64	47	12	5	12	9
Slovak Republic	82	66	33	24	18	10
Slovenia	79	63	39	20	20	10
South Africa	60	22	32	6	15	8
Spain	62	49	36	9	17	7
Sweden	66	69	36	24	16	9
Turkey	56	7	6	7	11	7
United Arab Emirates	62	51	13	11	13	10
United States	66	48	31	17	15	9
Viet Nam	66	29	13	6	16	10
OECD average-31	68	47	34	20	17	10
Source: OECD, TALIS 2018 Database,						
* Participation rate of principals is too low to ensure comparability for principals' reports and country estimates are not included in the OECD average.						

Figure 3.4: Age Groups of Principals in South Africa

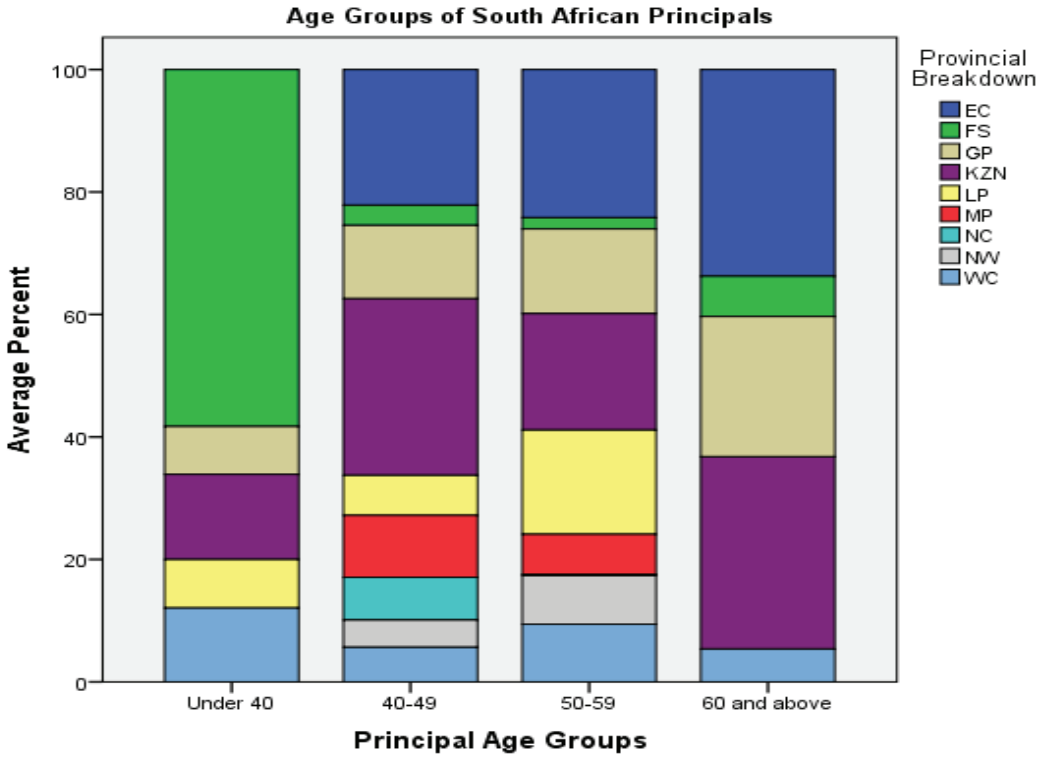
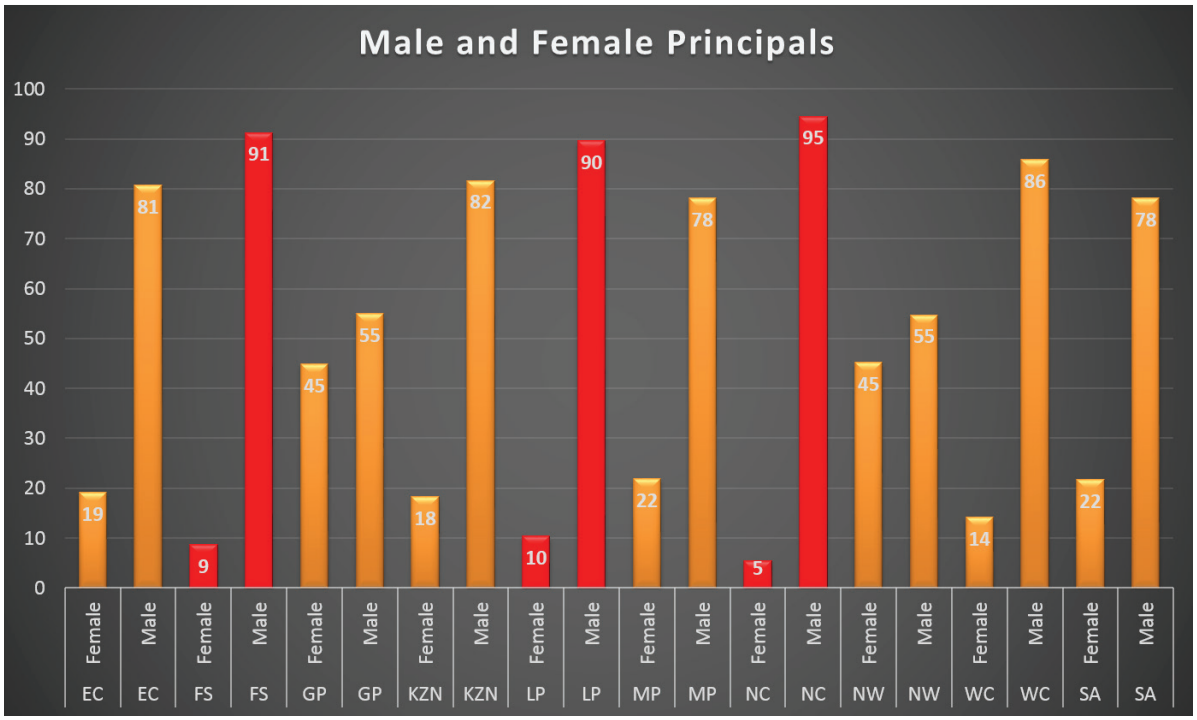


Figure 3.5: Gender of Principals in South Africa



Policy pointer 1.2: Taking action to prepare for the renewal of the teaching and principal workforces

70. Recruitment challenges will inevitably emerge if the workforce is ageing and the numbers of students are steady, growing or even declining at a lower rate than numbers of teachers and principals. Education systems facing an ageing of their teacher or principal populations need to carefully review their staffing needs and plans for the next 10 to 15 years, in light of the dynamics of their workforce and of their student population.

71. Education systems also need to carefully design plans to attract and prepare large cohorts of new teachers and school leaders, and to adequately support them to maximise their retention in the profession.

Policy pointer 1.3: Designing effective recruitment campaigns promoting participation of men and women as both teachers and school leaders

72. Recruitment campaigns should portray teachers and school leaders as key contributors to society and the development of future generations. Such campaigns should not keep silent about the financial packages and working conditions of these jobs and should praise their rewarding aspects, such as intellectual and social fulfilment, and the possibility to continually learn on the job, benefit from job security and reconcile the demands of personal and professional life.

73. Countries and economies should also engage in research to better understand the factors underlying the differential progression of male and female teachers towards leadership roles, and design policies to overcome any barriers to the career progression of female teachers that are identified. In particular, designing recruitment campaigns that are not gender-blind may be considered, depending on the type of job targeted, by emphasising that men can achieve professional growth as teachers and women as school leaders.

74. Whenever the limited progression of female teachers to leadership roles is due to a lack of interest by female teachers in such positions, education systems may consider further differentiating teaching careers to offer promotion tracks within teaching roles as a way to strengthen the professional attributes of teaching careers and, hence, foster the intellectual fulfilment and job satisfaction of female teachers and, ultimately, their retention in the profession.

3.2.2 Supporting new teachers entering the workforce

3.2.2.1 *Aim: To provide novice teachers with fulfilling working conditions and tailor-made support*

75. Given the impact of teachers on student learning, the effectiveness of teachers new to the profession is an important policy issue. An effective education system requires all teachers, including new teachers, to provide high-quality education to students (Jensen et al., 2012[19]). New teachers entering the profession need systemic support to be successful early in their careers. New teacher graduates mostly enter the profession with some degree of training through initial teacher-education programmes, such as graduate degrees, certification courses or other pathways of entry and some practical training opportunities. However, additional support activities and structures in the initial years of teaching can help teachers to cope with the challenges they face on the ground, as well as to maintain their motivation levels. Both are critical to make them competent and effective and convince them to stay in the profession (OECD, 2019[14]).

76. TALIS 2018 shows that, in their early career years, teachers tend to work in more challenging schools that have higher concentrations of students from socio-economically disadvantaged homes and students with a migrant background. Additionally, on average across the OECD, 22% of novice teachers report that they would like to change to another school if that were possible. Furthermore, novice teachers feel less confident in their ability to teach, particularly in their classroom management skills and their capacity to use a wide range of effective instructional practices. This result could be linked to the amount of time they have available for planning and teaching their classes. With regard to workload, after adjusting for full-time or part-time work, novice teachers work as many hours per week in total as teachers with more than five years of experience, on average across the OECD.

77. In addition to initial formal education and training, knowledge-based work typically requires extensive training for novice teachers upon entry to the profession. As a result, entry to the teaching profession often involves both formal and informal induction activities (Ingersoll and Merrill, 2011[8]). Given the importance of induction to teaching as a profession, TALIS has developed a large set of indicators describing the support received by novice teachers, school provisions in terms of induction and mentoring programmes and the actual participation of teachers in these programmes.

78. Despite empirical evidence showing that teachers' participation in induction and mentoring is beneficial to student learning (Glazerman et al., 2010[20]; Helms-Lorenz, Slof and van de Grift, 2013[21]; Rockoff, 2008[22]), these programmes and activities cannot be considered commonplace in TALIS countries and economies. On average across the OECD, 58% of teachers report not having participated in any formal or informal induction activity at their current school (Figure 1.6). This share is slightly lower for novice teachers (51%) than for more experienced teachers (60%). While school principals generally consider mentoring to be important for teachers' work and students' performance, only 22% of novice teachers have an assigned mentor, on average across the OECD (Figure 1.6).

79. In South Africa, almost 70% of teachers have received some form of formal or informal induction activity at their current school which is considerably better off than the average percentage of training received by the OECD teacher (42%). Almost half of all novice teachers are allocated a mentor in one of the target subjects at their schools and more than 90% of principals and teachers have participated in continuous professional development exercises in the last 12 months of the survey.

Policy pointer 3.1: Reviewing the allocation and compensation mechanisms for novice teachers

80. The way novice teachers are allocated across schools needs to be reviewed, with a view to assigning them to less challenging working environments in their first placements. In countries with more centralised teacher allocation and compensation mechanisms, a possibility would be to create a fixed-term first assignment for recent graduates of initial teacher-education programmes using a separate algorithm that would only assign them to a subset of

schools considered less challenging.

81. Another approach could be to create significant salary incentives that would be attributed to teaching positions in more challenging schools, so as to encourage applications from more experienced teachers and reducing the need to cover these positions with novice teachers. In countries with more decentralised systems, greater school autonomy and increased budgets for selecting and managing teachers could help schools with higher concentrations of socio-economically disadvantaged students to attract effective teachers (OECD, 2018[23]). The goal of such an approach would be to change mindsets so that teaching in more difficult schools is seen as a prestigious stage in a teacher's professional growth and career trajectory, and recognised accordingly in financial terms, rather than a necessary first ordeal. An additional advantage of such an approach would lie in its potential effects in fostering equity.

82. Whenever the assignment of novice teachers to a challenging school is unavoidable, school leaders also have a role to play to ease the transition of recent graduates to the profession, e.g. by allocating them to less challenging classes, making sure that their teaching assignments allow some degree of efficiency gain in lesson preparation (e.g. having several groups of the same grade), or considering pairing them with more experienced teachers in joint teaching arrangements. All these approaches, obviously, could be applied in centralised and decentralised systems alike.

Policy pointer 3.2: Designing effective context-based induction and mentoring activities

83. Induction programmes should be designed with the objective of aiding new practitioners to adjust to their new working environment and to become acquainted with the concrete realities of their jobs, as well as to avoid early dropout. A crucial element while planning induction opportunities for new teachers would be to allow school leaders to reduce their teaching load so that they can balance their working time between lesson preparation and actual teaching, and can meet the demands of participating in induction. A possible approach could be to increase the teaching load incrementally over the first years in the profession as new teachers gain in experience. This could be done through additional part-time teacher allocations in centralised systems, or mandatory requirements in decentralised ones.

84. It would also be important that the extent and intensity of induction support developed by school leaders for new teachers are tailored to the context of schools and student composition. The design of induction programmes could include team-teaching opportunities, as they can foster greater collaboration among teachers within schools and help new teachers to learn from experienced teachers, especially as they are more familiar with the specific school context.

Policy pointer 3.3: Giving school leaders an active role in the development and promotion of induction and mentoring opportunities

85. At the same time, school leaders need to urge teachers to take an active part in induction and mentoring activities. To guarantee participation in induction, it could be useful to allocate a certain number of hours (paid non-teaching time) dedicated to induction or mentoring within teachers' weekly or monthly schedule. School leaders could identify which teachers are best suited to act as mentors for the new teachers at their schools and whether they should be selected on the basis of the subject they teach, their years of experience in the school or their experience in the profession. Finally, education systems could design and establish career paths encouraging teachers to become mentors, through incentives related to improvement of their compensation.

3.2.3 Supporting the continuous professional growth of teachers and school leaders throughout their careers

3.2.3.1 *Aim: To provide high-quality initial teacher education*

86. To foster the lifelong improvement of the knowledge and skills base of teachers and school leaders, it is imperative for educational systems to provide pertinent training and facilitate the access to this training. According to Ingersoll and Merrill (2011, p. 187[8]):

… the underlying and most important quality distinguishing professions from other kinds of occupations is the degree of expertise and complexity involved in the work itself. In this view, professional work involves highly complex sets of skills, intellectual functioning and knowledge that are not easily acquired and not widely held.

87. In this context, an essential aspect of strengthening professionalism throughout the education system is to ensure that teachers and school leaders start off in their jobs with a solid knowledge base. To examine the importance of credentials in teachers' and school leaders' jobs, TALIS has developed a rich set of indicators to describe the type and content of the training they received before becoming teachers or school leaders. Figure 3.6 provides a snapshot of teachers' and school leaders' training that includes key indicators on their initial training.

Figure 3.6. Initial and continuous training

	Countries/economies where indicator is above the OECD average
	Countries/economies where indicator is not statistically different from the OECD average
	Countries/economies where indicator is below the OECD average

	Percentage (%) of teachers for whom content, pedagogy and classroom practice in some or all subjects taught were included in their formal education or training	% of principals for whom school administration or principal training programme or course elements were never included in their formal education or training	% of principals for whom instructional leadership training or course were never included in their formal education or training	% of teachers who did not take part in formal or informal induction activities at the current school	% of novice teachers who have an assigned mentor at the current school	% of teachers who participated in professional development activities in the 12 months prior to the survey	% of principals who participated in professional development activities in the 12 months prior to the survey
	Chapter 4	Chapter 4	Chapter 4	Chapter 4	Chapter 4	Chapter 5	Chapter 5
Alberta (Canada)	80	32	29	55	25	99	99
Australia*	82	31	30	28	37	99	100
Austria	87	w	w	77	11	99	100
Belgium	80	10	17	57	25	94	99
- Flemish Comm. (Belgium)	86	17	24	52	40	97	100
Brazil	83	13	17	61	33	87	94
Bulgaria	90	14	29	62	18	96	100
CABA (Argentina)	82	21	34	76	6	92	99
Chile	84	14	12	66	7	87	99
Colombia	84	15	12	46	22	91	96
Croatia	84	58	48	45	13	98	100
Czech Republic	62	5	37	43	26	97	100
Denmark	88	26	11	63	15	92	98
England (UK)	86	23	38	23	37	97	99
Estonia	81	4	8	69	17	98	100
Finland	87	0	17	43	10	93	99
France	66	3	m	83	17	83	94
Georgia	81	5	3	85	15	94	99
Hungary	86	5	3	70	27	95	100
Iceland	65	25	16	66	18	96	98
Israel	79	11	31	59	47	96	99
Italy	64	13	34	75	5	93	100
Japan	82	2	5	81	40	89	99
Kazakhstan	85	8	18	33	59	98	100
Korea	90	1	2	74	16	98	99
Latvia	85	11	7	56	16	99	100
Lithuania	82	36	33	79	9	99	100
Malta	82	17	7	50	23	91	100
Mexico	80	13	10	60	17	89	99
Netherlands	88	5	12	35	41	98	100

	Countries/economies where indicator is above the OECD average
	Countries/economies where indicator is not statistically different from the OECD average
	Countries/economies where indicator is below the OECD average

	Percentage (%) of teachers for whom content, pedagogy and classroom practice in some or all subjects taught were included in their formal education or training	% of principals for whom school administration or principal training programme or course elements were never included in their formal education or training	% of principals for whom instructional leadership training or course were never included in their formal education or training	% of teachers who did not take part in formal or informal induction activities at the current school	% of novice teachers who have an assigned mentor at the current school	% of teachers who participated in professional development activities in the 12 months prior to the survey	% of principals who participated in professional development activities in the 12 months prior to the survey
	Chapter 4	Chapter 4	Chapter 4	Chapter 4	Chapter 4	Chapter 5	Chapter 5
New Zealand	89	18	21	26	56	98	100
Norway	75	15	14	65	18	94	99
Portugal	75	13	23	60	14	88	98
Romania	91	2	9	63	22	89	97
Russia	90	4	11	65	27	98	100
Saudi Arabia	72	22	18	63	19	86	95
Shanghai (China)	89	1	1	50	67	99	100
Singapore	89	5	3	15	54	98	100
Slovak Republic	77	5	16	40	22	92	99
Slovenia	83	7	7	48	5	98	100
South Africa	81	10	6	31	50	91	96
Spain	48	15	26	74	10	92	100
Sweden	85	6	19	70	17	95	100
Turkey	76	32	23	76	15	94	96
United Arab Emirates	85	6	4	32	43	98	99
United States	84	13	4	39	39	98	100
Viet Nam	99	0	0	55	30	96	100
OECD average-31	79	13	17	58	22	94	99

Source: OECD, TALIS 2018 Database,

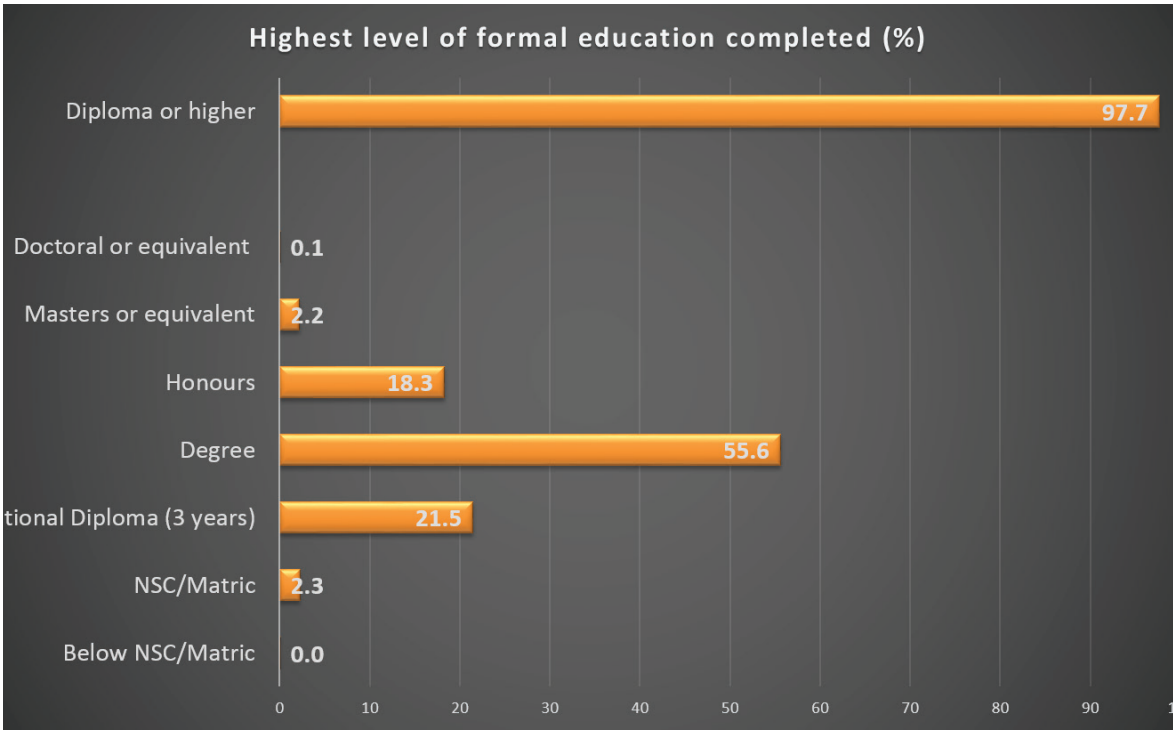
* Participation rate of principals is too low to ensure comparability for principals' reports and country estimates are not included in the OECD average.

88. The typical level of education attained by teachers varies slightly across countries. On average across OECD countries and economies, 50% of teachers report a bachelor's degree or equivalent, as their highest educational attainment. In South Africa, more than 75% of teachers have a short tertiary qualification (Diploma) or higher (see figure 3.7) with 18.3% of teachers having a Bachelor qualification. In three provinces, this percentage (see figure 3.8) is more than 20% (Limpopo, Gauteng, and Mpumalanga).

89. Across the OECD, another smaller share of teachers (44%) report a master's degree or equivalent, including stronger specialisation and more complex content than a bachelor's degree, as their highest educational attainment. Across the countries and economies with available data, most teachers completed a regular concurrent (rather than consecutive) teacher education or training programme, which grants future teachers a single credential for studies in subject-matter content, pedagogy and other courses in education during the first period of post-

secondary education. In some systems, a significant share of teachers did not complete any formal teacher education or only completed fast-track or specialised education or training programmes. Faced with teacher shortage issues, policy makers and school leaders may be incentivised to ease the entry into teaching to capture a larger pool of candidates. Even in these circumstances, education institutions and schools should ensure that all teachers are equipped with sufficient training in the content, pedagogy and classroom practice of the subjects they teach.

Figure 3.7: Highest level of formal education completed by teachers



Policy pointer 3.4: Offering alternative paths into the profession while preserving quality training

90. Faced with teacher shortages and the prospect of mass retirement waves in some countries, education systems are increasingly required to provide multiple ways into the profession to satisfy the demand for teachers – including through fast track or alternative routes. In doing so, they need to establish mechanisms to ensure that all teachers start off their teaching career with quality training. These mechanisms can translate into the establishment of rigorous accreditation institutions monitoring the work of teacher education providers (possibly including "fast-track" providers), teacher performance assessments conducted at some point of the teachers' initial training (at entry, during the mid-years of training, and/or towards the end of their training programme), and/or establishing professional standards that define precisely what is required and expected of teachers when entering their training and when they are ready to start teaching. Aim: To link initial teacher education with continuous professional development

91. A crucial component of professionalism among teachers and schools leaders is their participation in on-going in-service professional development (Guerriero, 2017[6]). "The assumption is that achieving a professional-level mastery of complex skills and knowledge is a prolonged and continuous process and, moreover, that professionals must continually update their skills, as the body of technology, skill, and knowledge advances." (Ingersoll and Merrill, 2011, p. 205[8]). Under this approach, teachers and school leaders are considered lifelong learners, with different needs for training throughout their career path. Education systems and training institutions, at both national and local levels, need to accurately identify these needs and secure teachers' and school leaders' access to relevant training.

92. First and foremost, TALIS findings support the idea that receiving pre-service training and/or in-service training in a given area is associated with a higher perceived level of self-efficacy in this area by teachers, and/or a higher propensity to use related practices.

93. In light of the value of pre- and in-service training for teachers' perceived self-efficacy and use of teaching practices, a key task when considering teachers as lifelong learners is to ensure adequate linkages between the content of teachers' initial training and that of their continuous professional development, so that all aspects of a teacher's work are covered at some point and consolidated and expanded upon over time (OECD, forthcoming). Across the OECD, almost all teachers report that their formal education or training included content, pedagogy and classroom practice in some or all the subjects they teach (Figure 3.6). Similarly, training in subject matter knowledge and understanding of the subject field and pedagogical competencies are the most frequent types of professional development attended by teachers. Other elements often included in teachers' formal education and their continuous professional development focus on student behaviour and classroom management (72% of teachers had such content covered for their initial training and 50% for professional development across OECD countries and economies), teaching cross-curricular skills (65% for initial training and 48% for continuous professional development), and use of ICT for teaching (56% for initial training and 60% for continuous professional development). These results reflect that there are certain topics that, despite being covered in the formal teacher education or training of a majority of countries and economies participating in TALIS, still emerge as highly requested topics for in-service training. Conversely, teaching in multicultural or multilingual settings is more rarely included in both initial training (35% of teachers across the OECD) and continuous professional development (22%).

94. Turning to school leaders, TALIS findings show that, while they have attained a higher level of education than teachers on average, fewer actually completed a programme preparing them for their job as school leader. Indeed, although 63% of school leaders hold a master's degree or equivalent on average across the OECD, only 54% of them have completed a programme or course in school administration or principal training before taking up their position as principal, with the same share having completed an instructional leadership training programme or course. In contrast, across the OECD, nearly 100% of principals participated in at least one type of professional development in the 12 months prior to the survey (Figure 3.6). Principals also tend to participate in more diverse training formats than teachers. This may suggest that principals compensate for their possible lack of initial training on leadership-specific skills with more intensive participation in continuous professional development activities.

Policy pointer 3.8: Building a bridge between the content of initial teacher education and professional development activities

95. Countries and economies need to ensure that the curricula of initial education and in-service professional development are consistent, well-connected and complementary. Continuous professional development activities need to take into account the knowledge and skills that teachers and school leaders acquired as part of their initial education or training and to build on them. These curricula need to be designed in a concerted manner for pre-service and in-service training. This may require institutionalising consultations, feedback loops and collaboration between the different actors and stakeholders of the initial teacher preparation and professional development systems if these responsibilities are shared across several entities.

Policy pointer 3.9: Fostering pre-service preparation of school leaders

96. There is considerable room to improve the professionalism of school leaders by creating pre-service programmes that help them develop the leadership skills to effectively engage in many of the practices associated with school success: developing and conveying a shared vision; cultivating shared practices; leading teams towards school goals; instructional improvement; developing organisational capacity; and managing change (Darling-Hammond et al., 2007[24]). TALIS results show that participation in professional development is the most common route principals use to validate and upgrade their skills.

97. Education systems could provide prospective school leaders with more opportunities to develop leadership skills prior to their appointment as school principals. This could be done either through specific training modules that prospective school principals would need to undertake or validate ahead of taking up leadership duties – e.g. by making such training a prerequisite for any appointment to a leadership position, or through the creation of intermediate leadership roles for experienced teachers interested in growing into leadership roles – e.g. based on Australia's department head-teacher model.

Policy pointer 3.10: Developing mentoring programmes for school leaders

98. Besides pre-service preparation, education systems could also provide school leaders with other relevant opportunities for in-service training upon appointment. A possible way to achieve this would be to create professional networks of principals where more experienced principal's mentor those who are newly appointed, and school leaders can learn from one another and share good practices to address common challenges.

Box 3.1. Mentoring and Induction Programme in South Africa

The Department of Basic Education (DBE) is implementing the Integrated Strategic Planning Framework for Teacher Education and Development in South Africa (ISPFTED-SA, 2011-2025), which outlines teacher induction and mentoring as critical for the professional development of teachers. The comprehensive induction process as envisaged by the Department is composed of two distinct stages namely, orientation – the shorter information sharing process of ensuring that new teachers know and have all the critical information to do their work effectively; and induction and mentoring – the yearlong learning and support of new teachers that may be professional, emotional/ social and administrative/ operational.

As a first step towards a comprehensive induction programme the Department has provided orientation guidelines, the National Guidelines on the Orientation of New Teachers, which was published in October 2017 and disseminated, and is currently being implemented in schools. The orientation booklet guides districts and schools on the critical information that every new teacher and school manager and leader will need to start off in a new post.

The Department envisages the induction and mentoring programme as a blended approach, where the inductee is fully engaged and taking initiative in the induction process. Mentoring is understood as a key element of the induction continuum from accepting the offer and assumption of duty, and including the short orientation period.

The development of the comprehensive induction programme commenced in 2018. A final draft New Teacher Induction Concept Note was developed and several consultation meetings with stakeholders were held. The Department is presently conceptualizing the field testing of the induction programme. It is envisaged that the field testing programme will commence in 2020.

Source: New Teacher Induction Concept Note (DBE, 2018)

3.2.3.2 *Aim: To provide high-quality continuous professional development*

99. Looking at TALIS 2018 data, it is clear that annual participation in professional development of both teachers and school leaders is almost universal, which is a great achievement with regard to the professionalisation of their jobs. On average across the OECD, 94% of teachers and nearly 100% of principals participated in at least one type of professional development in the 12 months prior to the survey (Figure 3.6).

100. Teachers attended about four different types of continuous professional development activities in the 12 months prior to the survey. The most attended forms of professional development are courses or seminars attended in person (76% of teachers across the OECD) and reading professional literature (72%). However, only 44% of teachers participate in training based on peer learning and networking. This is a bit unfortunate as research has shown that even though traditional training in the form of courses or seminars can be an effective tool, school-embedded professional development, such as peer-learning opportunities, tends to have a larger impact on teaching practices and can significantly reduce the cost of training – thus providing scope for efficiency gains and cost savings that could be reallocated to other priority areas.

101. Overall, teachers are satisfied with the in-service training received in the last 12 months, since on average across the OECD, 81% of teachers report that it had an impact on their work. Regression results showcase that teachers reporting a positive impact have higher levels of job satisfaction and/or self-efficacy than teachers reporting otherwise.

102. Teachers were asked to describe the characteristics of the training they deemed impactful. Teachers' descriptions of what makes in-service training effective can directly be translated into recommendations for policy changes with regard to the design of these programmes. According to teachers, impactful professional development programmes are based on a strong subject and curriculum content and involve collaborative approaches to instruction and the incorporation of active learning.

Policy pointer 3.11: Promoting school-based, collaborative and active professional development responding to local needs and adapted to school-specific contexts

103. The design and implementation of effective professional development can be led by local initiative at the school level. Indeed, such an approach would ensure that the focus of the professional development is responding to locally-identified needs and takes account of the school-specific context – making it more relevant to the daily jobs of participants.

104. Moreover, all the characteristics mentioned by teachers about the impactful in-service training they received (taking into account teachers' prior knowledge, providing opportunities for collaborative and active learning) could be met if training takes place at the school. However, given the comparatively low percentage of teachers participating in school-based training, this is an area where there is clearly room from improvement.

105. School leaders and teachers could also allocate part of the monthly or weekly hours to discussing issues involving instruction in their classroom, exchanging ideas and reflecting on their practices. Furthermore, each school could create a system of collective professional development based on peer-observation of classroom instruction, inspired by the Japanese lesson study model, where teachers can have the opportunity to observe new pedagogical methods, assess the instruction of their peers, and provide valuable feedback to foster reflective practice and improvement.

106. In South Africa, initiatives are at an advanced stage to introduce policies and frameworks around induction and mentoring at the school level. Information on this is presented in the box highlight below.

3.2.3.3 *Aim: To lift barriers to participation in professional development*

107. Strong participation in professional development programmes does not rule out the existence of significant barriers to participation. On average across the OECD, around half of teachers (53%) and principals (48%) report that participation in professional development is restricted by schedule conflicts. The next two most important barriers reported by teachers and, to a lesser extent by school leaders, are participation costs and the lack of incentives to engage in these activities. Today, teachers' participation in professional development programmes is mainly supported by mechanisms such as being released from teaching duties for activities during regular working hours, being provided with material needed for activities and being reimbursed for participation costs.

108. While access to and participation in professional development programmes are both very high in the TALIS participating countries and economies, the existence of concrete barriers to participation does suggest that more can still be done to support continuous training and the professional learning of teachers and school leaders throughout their career. The most successful education systems can provide inspiration on how to achieve this: they have embedded professional development as an integral part of the work of teachers, and do what it takes to facilitate participation, as illustrated by the entitlement of teachers in Singapore to 100 hours of professional development per year (Bautista, Wong and Gopinathan, 2015[25]).

Policy pointer 3.12: Creating incentives to participate in professional development

109. Participation in professional development needs more recognition as an essential attribute of the work of teachers and school leaders, as well as a stepping stone for their professional growth and career evolution.

110. Ideally, the development of knowledge and skills should lead teachers and school leaders to take on more responsibilities in their school, and be recognised as experts and resources for other teachers. The validation of certain competencies through participation in professional development could also be taken into account in recruitment or school assignments of teachers or school leaders, depending on the regime of the education system. It could also be considered in their career evolution.

Policy pointer 3.13: Funding participation in professional development

111. Participation in professional development for a set number of days per year could be made mandatory and fully subsidised by government or institutions in charge of local or national human resources. Alternatively, funds could be allocated to schools and school management staff could be asked to invest them on professional development activities for teachers and school leaders. This way, school leaders and school management staff could actually endorse a leading role in human resource management and professional development of staff in their schools.

112. Obviously, the potential budget implications of such an approach would need to be carefully considered. A promising approach could be for policy makers to engage, in partnership with the profession, in a critical review of the way professional development is offered and delivered in their education system, with a view to identifying barriers to participation and the scope for cost savings and efficiency gains. As discussed above, developing school-embedded forms of professional development could allow expanding professional development opportunities at limited extra cost, while at the same time allowing teachers and school leaders to participate in professional development better suited to their needs.

3.2.4 Promoting quality teaching for every student

113. As stated in Ingersoll and Merrill (2011[8]):

Given the importance of expertise to professions, it naturally follows that one of the most fundamental attributes of professions is specialisation – professionals are not generalists, amateurs, or dilettantes, but possess expertise over a specific body of knowledge and skill. Few employers or organisations would require heart doctors to deliver babies, real estate lawyers to defend criminal cases, chemical engineers to design bridges, or sociology professors to teach English. The assumption behind this is that because such traditional professions require a great deal of skill, training, and expertise, specialisation is considered necessary and good (2011, p. 205[8])

114. As described at the outset of this chapter, the professionalism of teachers and school leaders manifests itself not only in terms of the mastery of a core knowledge base and the processes by which this knowledge base is continuously updated throughout their careers, but also in the mastery and use of highly specialised skills and the application of expert judgement in choosing among different pedagogical approaches. To examine the skills of teachers, TALIS has developed a rich set of complementary indicators aiming to measure what teachers do in their classrooms: how they distribute their class time on various activities; how often they use effective teaching practices; and how well they are able to implement certain practices and achieve certain goals.

3.2.4.1 *Aim: Optimising use of teachers' and school leaders' time to support quality teaching*

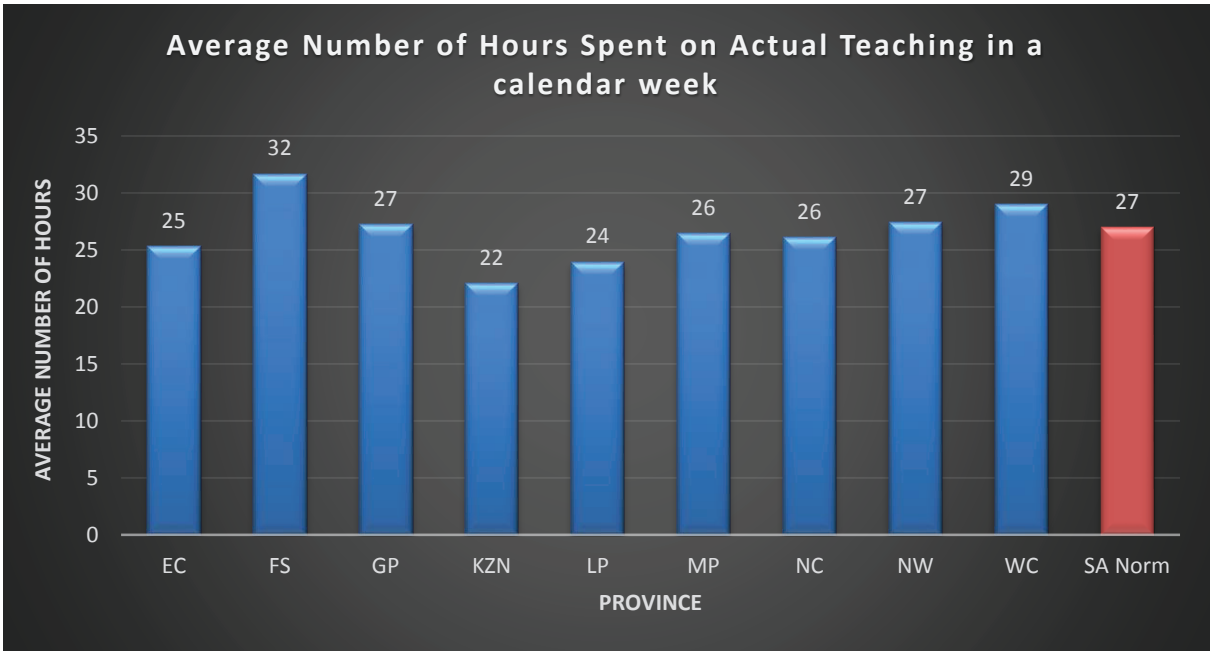
115. An important precondition for the implementation of quality teaching practices is making the most of classroom time to implement them. On average across the OECD, teachers spend 78% of classroom time on actual teaching and learning (the equivalent of 47 minutes out of a 60-minute lesson), 13% of classroom time on keeping order in the classroom (the equivalent of 7 minutes out of a 60-minute lesson) and 9% on administrative tasks (the equivalent of 6 minutes). Teachers' reported self-efficacy is relevant to assess the use of classroom time, as TALIS results show that as teachers' beliefs in their classroom management capabilities increase, they tend to spend less class time on keeping order.

116. Some important trends in teachers' use of time are also observed, for various time units. Overall, during a typical week, teachers teach a higher number of hours in 2018 than in 2013 (in about half of the countries with available data), hence suggesting that teaching loads have been rising. Concomitantly, the number of hours teachers spend on planning and preparing lessons has decreased. Some factors could make this downward tendency in preparation time less worrisome than it looks, for instance if teacher preparation has become more effective through the use of technology, if the teacher population is ageing (as preparation time is typically longer for novice teachers than for more experienced teachers), or if more teachers are required to teach the same lesson several times to different classes.

117. However, a more worrying trends is that, within a lesson, there is an overall decline in classroom time spent on actual teaching and learning since 2008 (observed in around half of the countries). This pattern suggests that the overall proportion of lesson time efficiently used for teaching and learning has decreased over the past decade.

118. In South Africa, teachers are expected to teach a total of 27 hours of actual teaching in a school week. The TALIS data shows that in 2 provinces (Free State and Western Cape), the average number of hours teachers spend on actual teaching exceeds 27 hours. In KwaZulu-Natal, the average number of hours spend is 22 hours, 3 hours less than the expected norm (see figure 1.11). In a school week, teachers spend on average 5.6 hours on lesson planning, 6.3 hours on marking and correcting work, and 3.6 hours on general administrative work (see figure 3.8).

Figure 3.8: Average number of hours spent on actual teaching



The quality of teachers' teaching also hinges on the time taken by school leaders to support teaching and learning in their school. TALIS findings suggest that school leaders are limited in their time and resources to express their instructional leadership. On average across the OECD, school principals spend 16% of their working time on curriculum and teaching-related tasks and meetings (e.g. on developing a school curriculum, teaching, observing their teachers' classes, mentoring teachers, designing and organising professional development activities for teachers or being involved in student evaluation). This makes it the third most time-consuming task of principals, after administrative tasks and meetings (30% of principals' working time) and leadership tasks and meetings (21%). Yet, this is not enough in the views of school leaders themselves: one of the most common resource issues hindering quality instruction reported by school leaders in participating countries and economies is the shortage or inadequacy of time for instructional leadership.

119. Fortunately, to the extent that solutions can be found to alleviate their administrative workload, the willingness of school leaders to engage more in instructional leadership activities is there. Principals report a great interest in improving both their school organisation and the practices of their teachers, with more than 70% of them attending training to become an instructional and/or pedagogical leader. Even more, the areas in which large shares of principals report a high need for professional development in developing collaboration among teachers (26% of principals across the OECD) and training in using data to improve the quality of the school (24%).

Policy pointer 3.14: Regulating the use of teachers' and school leaders' time

120. Effective pedagogical practices require time: e.g. time to prepare classes and to try out specific practices. Under a very rigid system of classroom hours, teachers may simply not be able to try out new practices in order to improve the quality of their teaching over time. Thus, it may be timely for the education system's policy makers and other stakeholders to engage in a critical reflection of time use, and to think differently about the use of teachers' working time, with a view to reducing the amount of time dedicated to administrative tasks, spending less time on non-effective professional learning, or allowing for some flexible hours for professional collaboration.

121. Likewise, education systems need to find ways to reduce the amount of school leaders' time dedicated to administrative tasks in order to support them in their role as instructional leaders. To achieve this, one option could be to regulate school leaders' working hours to ensure that they have adequate time to develop their leadership in the field of curriculum and teaching. But, obviously, regulations on school leaders' working hours will not be sufficient to foster instructional leadership without a concomitant redistribution of administrative duties or a reduction in reporting and other administrative requirements.

Policy pointer 3.15: Establishing clear professional standards for instructional leadership

122. Establishing clear professional standards for principals can also guide them in the type of in-service training they require to lead their schools, as well as encourage them to reorganise their time to shift emphasis towards instructional leadership activities.

Policy pointer 3.16: Building capacity for instructional leadership and recruiting instructional leaders among teachers

123. One possible option for school leaders to free some time for tasks related to curriculum and teaching could be for education systems to create intermediate management roles or devolve some management and administrative responsibilities to other teachers interested in building leadership capacity. For instance, teachers showing exceptional leadership skills could be identified and supported through established career tracks that allow them to pursue a school leadership path with concrete training opportunities to foster both their administrative and instructional leadership skills.

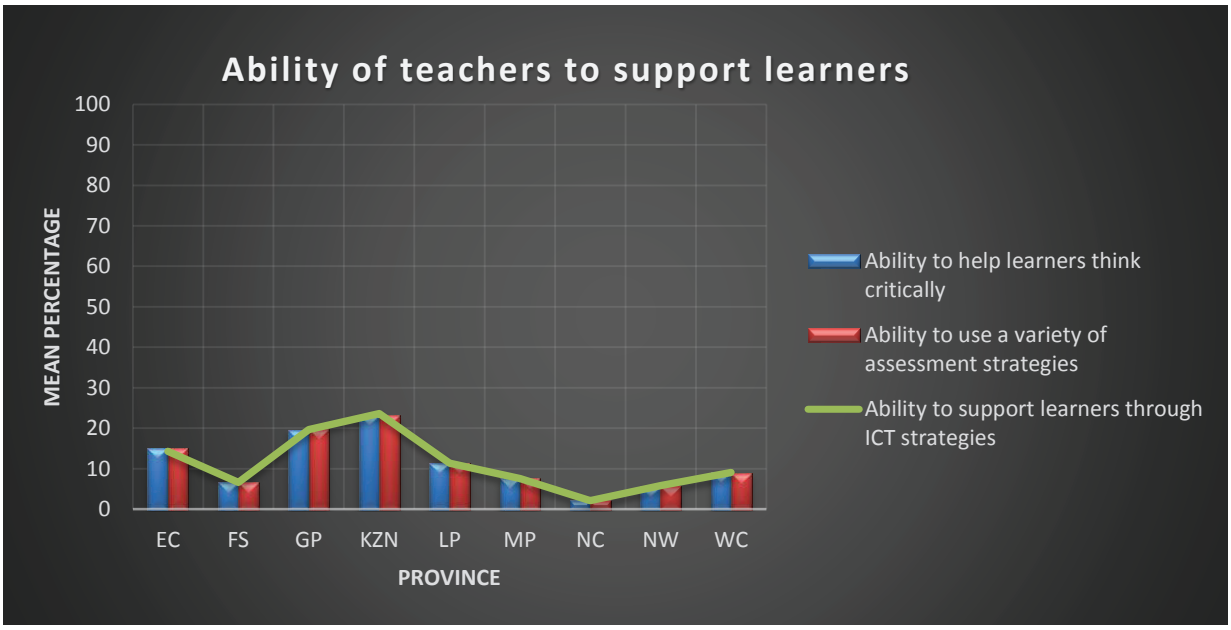
3.2.4.2 *Aim: To promote the use of effective teaching practices to foster the development of up-to-date knowledge, skills, values and attitudes among students*

124. On average across OECD countries and economies participating in TALIS, more than 80% of teachers feel confident in their capacity to teach and manage their classroom, while over 30% of teachers report difficulties in motivating student learning, particularly when it comes to turning around a situation where a student shows low interest in school work.

125. Among the wide range of instructional practices used by teachers in class, those aimed at enhancing classroom management and clarity of instruction are widely applied across the OECD countries and economies participating in TALIS, with at least two-thirds of teachers using them frequently. Practices involving student cognitive activation, i.e. instructional activities that require students to evaluate, integrate and apply knowledge within the context of problem-solving, are less widespread, with about half of teachers using these methods across the OECD. This is a pity, as past OECD studies provide repeated evidence that cognitive activation practices are positively related to student learning and achievement (Echazarra et al., 2016[26]; Le Donné, Fraser and Bousquet, 2016[27]). Indeed, these practices are capable of challenging students to motivate them and stimulating higher-order skills, such as critical thinking, problem-solving and decision-making. Teachers implementing these practices not only encourage students to find creative and alternative ways to solve problems, but also enable them to communicate their thinking processes and results with their peers and teachers.

126. Across the nine provinces, Teachers in South Africa also indicated a moderate level of teaching critical thinking skills. KZN teachers were the most confident that they would be able to support learners to think critically, use a variety of assessment strategies and support learners through ICT strategies (see Figure 3.9).

Figure 3.9: Support provided by teachers



127. TALIS data show that, when teachers teach smaller classes, when the share of academically gifted students in a classroom is larger or the proportion of low achievers is smaller, teachers tend to spend more classroom time on actual teaching and learning, to use cognitive activation practices more frequently and to feel more confident in their teaching in general. Cognitive activation practices are complex in terms of their design and implementation, so the more teaching time the teacher has available for teaching, the greater the opportunity to implement these practices.

Policy pointer 3.17: Training teachers in the use of effective teaching practices

128. Developing initial and continuous training curricula that highlight the relevance of effective teaching practices could foster the use of pedagogies related to cognitive activation in classrooms. Providing clinical practices where teachers have an opportunity to try out these strategies could be ways to facilitate acquisition of these skills by teachers. Teachers should be trained in the use of these practices, be aware of their importance, feel able to use them and enjoy the conditions to actually implement them.

Policy pointer 3.18: Promoting small-group instruction to mainstream the use of effective practices

129. Given the TALIS finding that teachers are more likely to use the more effective cognitive activation teaching practices when they have smaller groups of students to teach in their target class and the priority given to reducing class sizes among teachers, education systems as well as school leaders should strive to give teachers more opportunities for small-group instruction in their regular working environments in order to mainstream the use of effective teaching practices that are more sensitive to class sizes.

130. It is acknowledged that class size reduction across the board will likely not be achievable in many national contexts due to budgetary constraints and competing priorities to also make the profession more attractive financially. To address this trade-off, it would be important for policy makers to engage in a constructive dialogue with the profession to seek creative solutions to this dilemma. This could involve, for instance, allocating larger groups of students to highly professionalised teachers, but granting them an additional instructor or teacher aide per classroom as an alternative or complementary option to support the use of more individualised learning approaches.

131. School leaders could also be given more discretion to use human resources in more flexible ways at the school level so as to enable teachers to work with smaller groups at least part of the time. An additional advantage of such an approach could be to provide an opportunity to trial new ways of working in teams with other teachers and support staff to assess the impact of such arrangements on students and teachers.

3.2.4.3 *Aim: To foster openness towards innovation and effective use of ICT in teaching*

132. The 2014 OECD report *Measuring Innovation in Education: A New Perspective* states that educational innovation can add value in four main areas: 1) improving learning outcomes and the quality of education; 2) enhancing equity in access to and use of education, as well as equality; 3) improving efficiency, minimising costs and maximising the "bang for the buck"; and 4) introducing the changes necessary to adapt to rapid changes in society (OECD, 2014, p. 21[28]). A perspective of interest with regard to innovation concerns the general uptake of innovative practices by teachers and schools as core actors in educational processes. On average across the OECD, about 70% to 80% of teachers and more than 80% of school leaders view their colleagues as open to change and their schools as places that have the capacity to adopt innovative practices. However, this viewpoint is less common among young and novice teachers than among more experienced teachers and also less common in European countries than in other parts of the globe.

133. While asking teachers and school leaders about school staff's innovation-friendliness, TALIS left the interpretation of the meaning of innovation very open. However, TALIS also collects information on the use of information and communication technology (ICT) in classrooms and schools, which can be considered as one possible expression of innovation among many others. Figure 1.3 provides a snapshot of the use of ICT for teaching and the development of and need for related skills. The frequency with which teachers have students use ICT for projects or class work has risen in almost all countries since 2013, to a point where 53% of teachers across the OECD report "frequently" or "always" using this practice. At the same time, participation rates in professional development activities including ICT skills for teaching have increased in many countries since 2013. The rise in the use of ICT for projects or class work is not surprising, given the recognised digitalisation and spread of ICT tools used in social and work activities. This rise can be explained by the dissemination of these technologies in all spheres of society and also by the renewal of teacher generations more familiar with these technologies.

134. However, TALIS data suggest that there is limited preparation and support available for teachers that could enable them to implement innovative practices in their instruction. Only 56% of teachers across the OECD received training in the use of ICT for teaching as part of their formal education or training and only 43% of teachers felt well or very well prepared for this element when they completed their initial education or training. While almost all teachers participate in professional development activities, on average across participating countries and economies, only about 65% of teachers report that the most impactful professional development they participated in focused on innovation in their teaching. Moreover, about 18% of teachers across the OECD still express a high need for professional development in ICT skills for teaching. Finally, with 25% of school leaders reporting a shortage and inadequacy of digital technology for instruction, this suggests teachers may be limited in their use of ICT.

135. In South Africa, 62% of teachers indicated they have been trained on the use of ICT, which is higher than the average percentage use of ICT by teachers in the OECD (56%). Of these teachers 54% were well prepared for ICT and 38% of teachers indicated they often let students use ICT for projects or class work

Figure 3.10: ICT for teaching

	Countries/economies where indicator is above the OECD average
	Countries/economies where indicator is not statistically different from the OECD average
	Countries/economies where indicator is below the OECD average

	Percentage of teachers for whom the "use of ICT for teaching" has been included in their formal education or training	Percentage of teachers who felt "well prepared" or "very well prepared" for the use of ICT for teaching	Percentage of teachers for whom "use of ICT for teaching" has been included in their professional development activities	Percentage of teachers reporting a high level of need for professional development in ICT skills for teaching	Percentage of teachers who "frequently" or "always" let students use ICT for projects or class work	Percentage of school leaders reporting shortage or inadequacy of digital technology for instruction
Alberta (Canada)	71	42	56	8	66	12
Australia*	65	39	67	11	78	12
Austria	40	20	46	15	33	18
Belgium	51	28	40	18	29	29
- Flemish Comm. (Belgium)	56	34	45	9	38	16
Brazil	64	64	52	27	42	59
Bulgaria	58	50	63	23	44	26
CABA (Argentina)	53	50	61	20	64	39
Chile	77	67	51	17	63	13
Colombia	75	59	78	34	71	64
Croatia	47	36	73	26	46	25
Czech Republic	45	28	41	13	35	24
Denmark	47	40	47	11	90	13
England (UK)	75	51	40	5	41	15
Estonia	54	30	74	19	46	12
Finland	56	21	74	19	51	20
France	51	29	50	23	36	30
Georgia	45	47	67	33	53	29
Hungary	51	66	69	20	48	36
Iceland	46	26	63	21	54	5
Israel	58	47	69	29	52	40
Italy	52	36	68	17	47	31
Japan	60	28	53	39	18	34
Kazakhstan	75	69	90	30	66	45
Korea	59	48	61	21	30	24
Latvia	55	48	77	23	48	41
Lithuania	45	57	69	24	62	30
Malta	70	49	48	14	48	6
Mexico	77	80	64	16	69	44
Netherlands	49	29	61	16	51	16
New Zealand	59	34	73	14	80	18
Norway	46	36	58	22	m	11

SOUTH AFRICA – Summary of Key Findings

	Countries/economies where indicator is above the OECD average
	Countries/economies where indicator is not statistically different from the OECD average
	Countries/economies where indicator is below the OECD average

	Percentage of teachers for whom the "use of ICT for teaching" has been included in their formal education or training	Percentage of teachers who felt "well prepared" or "very well prepared" for the use of ICT for teaching	Percentage of teachers for whom "use of ICT for teaching" has been included in their professional development activities	Percentage of teachers reporting a high level of need for professional development in ICT skills for teaching	Percentage of teachers who "frequently" or "always" let students use ICT for projects or class work	Percentage of school leaders reporting shortage or inadequacy of digital technology for instruction
Portugal	47	40	47	12	57	55
Romania	70	70	52	21	56	50
Russia	69	72	75	15	69	32
Saudi Arabia	73	72	76	28	49	61
Shanghai (China)	79	63	77	30	24	10
Singapore	88	60	75	14	43	2
Slovak Republic	62	45	60	17	47	25
Slovenia	53	67	59	8	37	4
South Africa	**62**	**54**	**53**	**32**	**38**	**65**
Spain	38	36	68	15	51	21
Sweden	37	37	67	22	63	10
Turkey	74	71	61	7	67	22
United Arab Emirates	86	86	85	10	77	31
United States	63	45	60	10	60	19
Viet Nam	97	80	93	55	43	82
OECD average-31	56	43	60	18	53	25

Source: OECD, TALIS 2018 Database

* Participation rate of principals is too low to ensure comparability for principals' reports and country estimates are not included in the OECD average.

Policy pointer 3.19: Building and promoting professional learning communities to disseminate innovative practices

136. Innovation is not something that can be mandated or instructed. The establishment of professional learning communities could be a precondition to spreading and fostering the use of innovative practices. Past OECD reports (Kools and Stoll, 2016[29]; Vieluf et al., 2012[30]) have pointed out the value that professional learning communities offer by constantly providing feedback to teachers, thus supporting incremental change and positively affecting instructional quality and student achievement (Bolam et al., 2005[31]; Louis and Marks, 1998[32]).

137. The fact that school leaders report higher levels of openness towards innovation than teachers suggests that school leaders face an important challenge in fostering a school environment open to new ideas. School leaders can help to develop a spirit of innovation-friendliness among their staff, not only by encouraging them to readily accept new ideas, but also by working with them in school-based professional learning communities to proactively

identify needs for change, and making assistance available to support teachers in the process of change and in doing things differently.

Policy pointer 3.20: Tailoring support for integrating ICT in teaching and dissemination of good practices

138. Training should move forward from just teaching the skills to master certain technology competencies to finding ways how technology can be tailored to specific subjects and specific activities within those subjects. Also, training focusing on ICT skills for teaching should reflect on how technology can amplify great teaching and empower teachers to become better instructors rather than narrowly focus on the tools. These opportunities should focus on building teachers' competencies for dealing with technology use in the classroom.

139. Furthermore, the scope of ICT skills can be quite broad, encompassing issues as diverse as the mastery of online search engines, managing social media, learning coding scripts, creating multimedia platforms, among others. As teachers access more and more training, they will be more curious and will engage in exploring new areas of technology to implement in their instruction. Educational systems should be prepared for this demand by articulating a diverse and flexible offer on ICT training.

3.2.4.4 *Aim: To build the capacity of teachers and school leaders to meet the needs of diverse classrooms and schools*

140. TALIS results show that learning environments are diverse in terms of their ethnic and cultural diversity, socio-economic diversity and students with special needs. Reflecting on the state of classroom diversity research, a recent OECD paper stated:

Regardless of the particular terminology and conceptual framework [of classroom diversity], the debate has centred on formal education settings with researchers analysing the processes and problems related to cultural, ethnic, linguistic, religious or national diversity at school. In turn, researchers and practitioners search for solutions, frequently focusing on desired teacher qualities and competencies (Forghani-Arani, Cerna and Bannon, 2019, p. 7[33])

141. With regard to solutions, the same paper further stated:

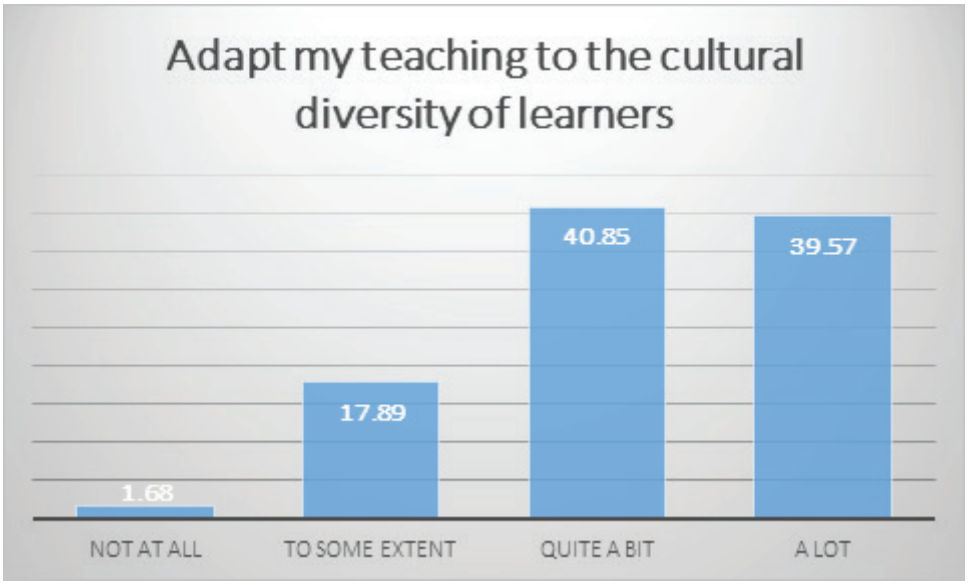
From [a] reflective standpoint teachers can treat diversity as an asset and source of growth rather than a hindrance to student performance (Forghani-Arani, Cerna and Bannon, 2019, p. 14[33])

142. TALIS 2018 places particular attention on multicultural diversity. Indeed, the integration of world economies, large-scale migration and surges in refugee flows have all contributed to forming more ethnically, culturally and linguistically diverse learning environments than in the past in the countries that have been most exposed to these phenomena. Therefore, ensuring high-quality learning experiences for this diverse student body is of particular policy priority for countries. In 2018, working with quite diverse student populations is no longer exceptional and is part of the reality for a number of teachers. Across the OECD, on average, 17% to 31% of teachers teach in schools with diverse student composition, defined either by the proportion of refugee students, or of students whose first language is different from the language of instruction, or of students with a migrant background. And since it is not necessarily the case that the same schools have all forms of diversity at the same time, the proportion of teachers actually working with diverse students is likely higher.

143. However, not many teachers are trained in teaching such culturally diverse classrooms. Only 35% of teachers report that teaching in multicultural and multilingual settings was included in their formal teacher education or training, and only 22% of teachers said it was included in their professional development activities in the last 12 months. Further, teachers who have previously taught a classroom with students from different cultures

report that they do not feel confident in their ability to cater for the needs of diverse classrooms. When teachers completed their formal teacher education or training, only 26% of them felt well or very well prepared for teaching in a multicultural or multilingual setting. At the time of survey completion, 33% of teachers still do not feel able to cope with the challenges of a multicultural classroom, on average across the OECD. Teaching in a multicultural or multilingual setting is one of the professional development activities with the highest proportion of teachers reporting a high need for it (15%) compared to 20% in South Africa. Almost 40% of teachers in South Africa reported that they can adapt their teaching to the cultural diversity of learners (see figure 3.11)

Figure 3.11: Teaching to cultural diversity



144. While a high percentage of teachers report high levels of self-efficacy with respect to promoting positive relationships and interactions between students from different backgrounds, fewer teachers feel able to adapt their teaching to the cultural diversity of students. This result signals that more efforts can be made to provide teachers with the instructional tools to adapt their lessons. Indeed, TALIS shows that, overall, teachers who were trained in the area of teaching in multicultural and multilingual settings in their initial and/or in-service training also report higher levels of self-efficacy in teaching in multicultural/multilingual settings. Figure 1.4 provides a snapshot of teaching in multicultural and multilingual settings and the development of and needs for related skills.

Figure 3.12: Teaching in multicultural and multilingual settings

Countries/economies where indicator is above the OECD average

Countries/economies where indicator is not statistically different from the OECD average

Countries/economies where indicator is below the OECD average

	Percentage of teachers teaching in classes with more than 10% of students whose first language is different from the language of instruction	Percentage of teachers for whom "teaching in a multi-cultural or multilingual setting " was included in their formal education or training	Percentage of teachers who felt "well prepared" or "very well prepared" for teaching in a multicultural or multilingual setting	Percentage of teachers for whom "teaching in a multicultur-al or multilin-gual setting " was includ-ed in their professional development activities	Percentage of teachers reporting a high level of need for professional development in teaching in a multicultural or multilingual setting	Percentage of teachers who feel they can cope with the challenges of a multicultural classroom "quite a bit" or "a lot" in teaching a culturally di-verse class[1]
Alberta (Canada)	45	63	38	41	10	67
Australia	27	59	27	23	7	70
Austria	42	31	15	18	14	74
Belgium	35	31	16	13	9	81
- Flemish Comm. (Belgium)	39	34	17	18	8	77
Brazil	4	42	44	27	44	81
Bulgaria	40	27	26	31	21	82
CABA (Argentina)	9	35	34	19	25	70
Chile	5	42	37	21	34	57
Colombia	5	47	30	29	45	90
Croatia	8	25	20	19	14	81
Czech Republic	3	16	10	14	6	65
Denmark	21	37	26	14	11	85
England (UK)	27	68	43	19	5	72
Estonia	13	28	16	25	11	70
Finland	15	29	14	20	7	69
France	16	12	8	6	17	66
Georgia	9	30	33	35	12	71
Hungary	2	19	28	15	13	84
Iceland	24	27	13	23	19	62
Israel	17	34	33	21	17	63
Italy	17	26	19	28	14	80
Japan	2	27	11	13	15	17
Kazakhstan	33	48	43	37	13	68
Korea	4	29	24	31	14	31
Latvia	23	33	32	28	11	89
Lithuania	6	23	35	18	10	67
Malta	29	38	23	27	20	65
Mexico	4	27	26	16	46	59
Netherlands	15	30	17	10	4	68
New Zealand	27	78	45	46	7	74

Countries/economies where indicator is above the OECD average

Countries/economies where indicator is not statistically different from the OECD average

Countries/economies where indicator is below the OECD average

	Percentage of teachers teaching in classes with more than 10% of students whose first language is different from the language of instruction	Percentage of teachers for whom "teaching in a multi-cultural or multilingual setting " was included in their formal education or training	Percentage of teachers who felt "well prepared" or "very well prepared" for teaching in a multicultural or multilingual setting	Percentage of teachers for whom "teaching in a multicultur-al or multilin-gual setting " was includ-ed in their professional development activities	Percentage of teachers reporting a high level of need for professional development in teaching in a multicultural or multilingual setting	Percentage of teachers who feel they can cope with the challenges of a multicultural classroom "quite a bit" or "a lot" in teaching a culturally di-verse class[1]
Norway	23	29	15	15	13	59
Portugal	8	21	19	14	22	94
Romania	8	37	43	22	27	72
Russia	12	31	32	24	13	83
Saudi Arabia	11	36	43	40	26	77
Shanghai (China)	3	63	52	43	22	45
Singapore	58	72	61	25	5	65
Slovak Republic	11	26	21	14	9	64
Slovenia	16	12	27	18	14	58
South Africa	**62**	**75**	**67**	**54**	**20**	**81**
Spain	22	29	26	32	18	52
Sweden	41	41	32	24	15	68
Turkey	18	33	39	27	22	55
United Arab Emirates	50	76	80	65	10	90
United States	25	70	48	42	6	66
Viet Nam	20	44	31	41	19	46
OECD average-31	18	35	26	22	15	67

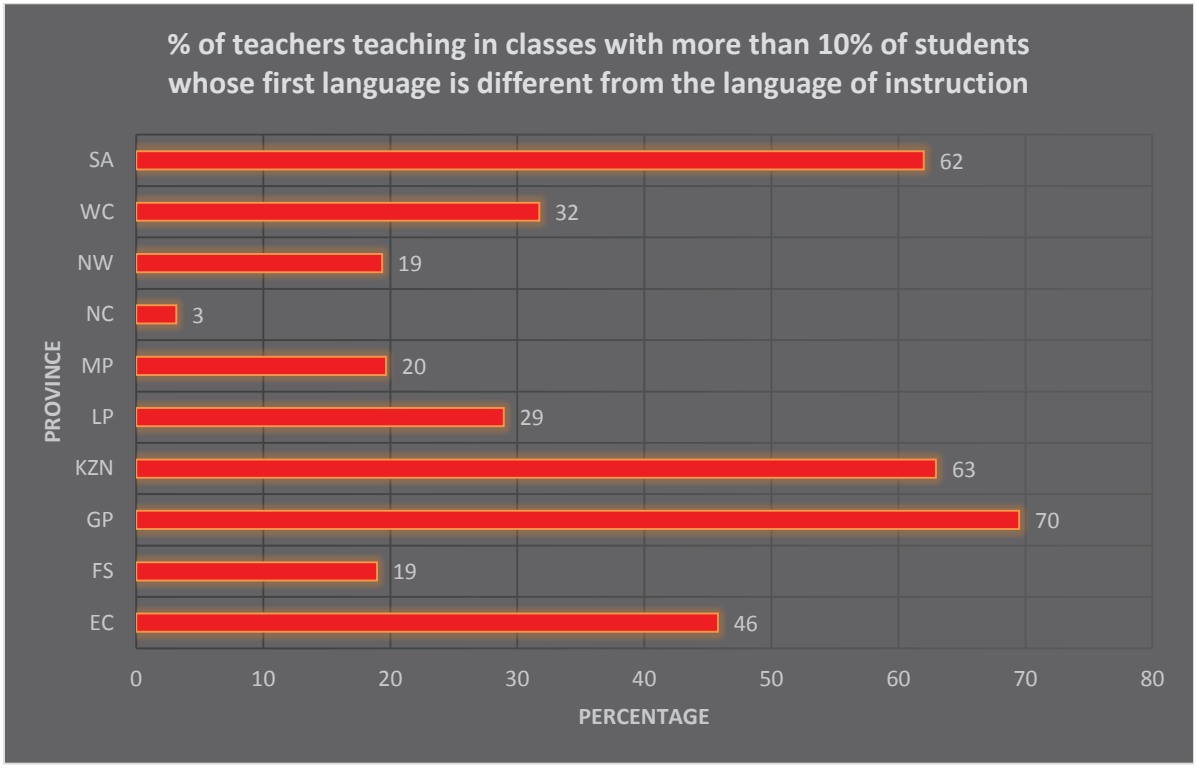
1. The sample is restricted to teachers reporting that they have already taught a classroom with students from different cultures.

Source: OECD, TALIS 2018 Database

145. Although there is no clear evidence of a global increase in school and classroom diversity, some countries experienced a rise in the concentration of students whose first language is not the language of instruction at school, of students from socio-economically disadvantaged homes and of students with special needs. However, a global trend does transpire in teachers' reported needs for training in dealing with student diversity. Between 2013 and 2018, there has been a global increase in the share of teachers expressing a high need for training in teaching in a multicultural or multilingual setting, suggesting that teachers see this as a phenomenon likely to rise in importance in the future, if not already a pressing issue for them.

146. In South Africa, teachers teach a significantly high number of learners whose first language is different from the language of instruction. In one of the more cosmopolitan province (Gauteng), more than 70% of teachers teach in classes where this is the case (see figure 3.13). This is largely due to the language of instruction being offered only in English and Afrikaans, which is two of the 11 official languages spoken in South Africa.

Figure 3.13: Language differences



147. Although multicultural diversity is not universally shared among the countries and economies participating in TALIS, one issue that is of universal relevance relates to the inclusion of students with special needs in regular learning environments. This issue is of particular priority for all education systems worldwide. On average across the OECD, 31% of teachers work in schools with at least 10% of students with special needs. Particularly, in at least seven education systems, more than half of the teachers work in schools with at least 10% of students with special needs. Although, on average, across the OECD, 62% of teachers were trained as part of their formal teacher education or training to teach in mixed-ability settings, only 44% of teachers on average felt prepared to teach in mixed-ability settings when they finished their studies. Furthermore, although 43% of teachers on average participated in professional development activities including teaching students with special needs, training in teaching special needs students is the professional development topic with the highest percentage of teachers reporting a high need for it (22%). While participation in professional development on this topic has experienced one of the highest increases between 2013 and 2018, the percentage of teachers reporting a high need for it has also experienced one of the highest increases in the same period. Finally, on average across the OECD, 32% of school principals report that delivery of quality instruction in their school is hindered by a shortage of teachers with competence in teaching students with special needs. This shortage ranks among the most frequent resource issues reported by school principals. Figure 1.5 provides a snapshot of teaching special needs students as well as of the development of and need for related skills.

Figure 3.14. Teaching special needs students

Countries/economies where indicator is above the OECD average

Countries/economies where indicator is not statistically different from the OECD average

Countries/economies where indicator is below the OECD average

	Percentage of teachers teaching in classes with more than 10% of special needs students	Percentage of teachers for whom the "teaching in a mixed-ability setting" has been included in their formal education or training	Percentage of teachers who felt "well prepared" or "very well prepared" for teaching in a mixed-ability setting	Percentage of teachers for whom "teaching students with special needs" was included in their professional development activities	Percentage of teachers reporting a high level of need for professional development in teaching students with special needs	Percentage of school leaders reporting shortage of teachers with competence in teaching students with special needs
Alberta (Canada)	32	77	44	47	11	14
Australia*	29	74	38	58	12	18
Austria	23	52	27	23	16	14
Belgium	52	66	37	35	18	56
- Flemish Comm. (Belgium)	53	70	41	38	13	39
Brazil	11	73	71	40	58	60
Bulgaria	8	42	37	39	27	18
CABA (Argentina)	3	57	51	23	36	18
Chile	55	76	68	55	38	27
Colombia	9	70	54	42	55	68
Croatia	10	47	28	67	36	25
Czech Republic	24	34	18	53	15	30
Denmark	33	67	45	29	19	33
England (UK)	41	90	69	57	6	23
Estonia	14	51	24	57	26	47
Finland	26	73	35	30	12	15
France	40	49	25	30	34	70
Georgia	4	35	39	51	22	14
Hungary	21	71	76	45	22	35
Iceland	40	55	26	30	17	13
Israel	27	73	59	33	25	41
Italy	37	57	37	74	15	48
Japan	21	64	26	56	46	44
Kazakhstan	5	76	67	32	14	17
Korea	6	64	50	25	13	20
Latvia	9	50	42	50	20	26
Lithuania	11	45	52	53	21	20
Malta	23	64	36	31	20	29
Mexico	8	71	72	28	53	34
Netherlands	46	44	27	42	12	21
New Zealand	17	83	49	32	15	24
Norway	35	60	25	31	18	18

Countries/economies where indicator is above the OECD average

Countries/economies where indicator is not statistically different from the OECD average

Countries/economies where indicator is below the OECD average

	Percentage of teachers teaching in classes with more than 10% of special needs students	Percentage of teachers for whom the "teaching in a mixed-ability setting" has been included in their formal education or training	Percentage of teachers who felt "well prepared" or "very well prepared" for teaching in a mixed-ability setting	Percentage of teachers for whom "teaching students with special needs" was included in their professional development activities	Percentage of teachers reporting a high level of need for professional development in teaching students with special needs	Percentage of school leaders reporting shortage of teachers with competence in teaching students with special needs
Portugal	19	45	39	30	27	48
Romania	12	80	77	33	35	45
Russia	5	73	72	55	15	11
Saudi Arabia	9	77	70	26	29	52
Shanghai (China)	8	80	69	46	25	20
Singapore	19	79	54	35	20	17
Slovak Republic	22	57	36	37	26	30
Slovenia	31	46	57	54	23	28
South Africa	**29**	**76**	**67**	**34**	**39**	**53**
Spain	19	35	28	37	28	25
Sweden	40	73	61	46	18	30
Turkey	11	66	65	52	16	37
United Arab Emirates	16	87	88	69	18	42
United States	51	81	56	56	9	28
Viet Nam	7	88	72	50	26	58
OECD average-31	27	62	44	43	22	32

Source: OECD, TALIS 2018 Database

* Participation rate of principals is too low to ensure comparability for principals' reports and country estimates are not included in the OECD average.

Policy pointer 3.21: Incorporating teaching strategies for diverse settings in the curricula of initial and in-service teacher training

148. Countries and economies need to ensure that teachers are prepared to teach multicultural, multilingual and mixed-ability classrooms. In response to these realities, education systems need to have a systemic framework to prepare the teaching workforce to teach in diverse settings, including in diverse multicultural environments, by including this issue in the vision, planning and curricular design of initial training and in-service professional development opportunities.

149. Training systems could also offer opportunities for student teachers to study abroad as part of their formal teacher education or training. This would allow future teachers to develop intercultural and interpersonal skills useful for teaching culturally diverse classes.

150. School leaders can also play a role to foster a school-wide approach to professional development in teaching multicultural, multilingual and mixed-ability classrooms by organising school-embedded professional development activities targeted to the type(s) of diversity relevant to their school composition. They may also take into account

teachers' ability and preparedness to teach in diverse environments when allocating teachers to specific classrooms, and make sure to team up teachers with more and less experience in this area together to learn from one another.

Policy pointer 3.22: Implementing school-level policies and practices to make the most of diversity

151. Countries and economies also need to equip and grant enough autonomy to school leaders so that they can design and implement school-level policies and practices capable of supporting the learning of all students, irrespective of their abilities, learning needs, and social or cultural origins. These policies and practices can include information sessions for students about ethnic and cultural discrimination and how to deal with it and meetings with teachers to discuss how to integrate global issues throughout the curriculum. For countries and economies with a stronger tradition of promoting multiculturalism, school leaders could consider organising multicultural events or supporting activities that encourage students to express diverse cultural identities and celebrate the richness of diversity.

Policy pointer 3.23: Reinforcing the provision, support and training for teaching special needs students

152. Education systems should develop strategic policy actions to improve the quality and number of teachers equipped to teach special needs students as they are increasingly enrolled in regular schools and classes. High-quality teacher training for special needs education should be included for all teacher candidates as well as in-service teachers. Specific competencies related to teaching in inclusive classrooms should be included in national standards frameworks for teachers.

153. The high need for training reported by teachers could signal that teachers' schools do not have the necessary resources in terms of infrastructure or educational resources to support the teachers serving this population. A special financial subsidy for mainstream schools that serve special needs students could improve the situation of both human and educational resources, e.g. to recruit teacher aides.

154. It is also important to invest in training for the detection and diagnosis of special needs students. What teachers perceive as issues (e.g. misbehaving students, low performers) could have other explanations (e.g. undiagnosed special needs). Misdiagnosis is costly for both students, teachers and education systems as a whole, so more effort is warranted on this front.

3.2.4.5 *Aim: To foster a school and classroom climate conducive to student learning and well-being*

155. An important issue for policy makers, principals, teachers and parents alike is to ensure that schools be safe environments, that classroom climate be conducive to student learning, and that relationships among students and with school staff be conducive to their development and well-being. Fortunately, on average across the OECD, schools in 2018 are, for the most part, immune from weekly or daily school safety incidents and, thus, provide students with safe learning environments.

156. However, one issue stands out in the reports of school principals on school safety: reports of regular incidents related to intimidation or bullying among students are significantly higher than for the other school safety incidents, occurring at least weekly in 14% of schools, on average across the OECD. In TALIS 2018, a new item asks principals about the frequency of a student or parent/guardian reporting posting hurtful information on the Internet about students – akin to cyberbullying – in addition to the item, already in TALIS 2013, asking about the frequency of intimidation or bullying. Contrasting daily or weekly incidents of bullying in 2013 with daily or weekly incidents of either bullying or posting of hurtful information on the Internet (in 2018) reveals that, unlike common expectations, quite a few countries and economies have experienced a reduction in the frequency of this phenomenon. But in a few systems, their frequency has increased according to principals, which calls for close monitoring and specific action.

157. Moving on to the classroom level, TALIS 2018 results suggest that relations between teachers and their students are extremely positive. On average across OECD countries and economies participating in TALIS, 95% of teachers

concur that teachers and students usually get on well with one another – up from the percentage in 2008 for most countries with available data. Change in student-teacher relations over time also reveals that teachers' belief in the importance of student well-being has progressed in the vast majority of countries since 2008.

158. However, quite a few teachers face classroom disciplinary issues. More specifically, 29% of teachers report that they "lose quite a lot of time because of students interrupting the lesson" and a significant share of teachers do not feel they can resolve this situation. In particular, 17% of teachers do not feel that they can calm a student who is disruptive or noisy. TALIS data allows the extent to which teachers are supported in this aspect of teaching to be examined. Looking at their formal education and training, 72% of teachers on average across the OECD report having received initial training in student behaviour and classroom management, a share that is low compared to that of teachers receiving training in subject content, pedagogy and classroom practice. In addition, only 53% of teachers report that they felt prepared for this aspect of their work when they completed their initial education or training.

159. Across the OECD, only 49% of teachers report that they received training in student behaviour and classroom management as a part of their recent professional development activities. While 83% of teachers feel that they can calm a student who is disruptive or noisy, a considerable share of teachers (14%) across the OECD express a high need of professional development in student behaviour and classroom management. The issue of managing disciplinary issues is particularly pressing and stands as an impediment to instructional quality in schools as TALIS data shows that 29% of teachers express that they lose quite a lot of time because of students interrupting the lesson. Figure 1.6 provides a snapshot of teachers' training, self-efficacy and challenges with regard to student behaviour and classroom management.

Figure 3.15. Student behaviour and classroom management

	Countries/economies where indicator is above the OECD average
	Countries/economies where indicator is not statistically different from the OECD average
	Countries/economies where indicator is below the OECD average

	Percentage of teachers for whom "student behaviour and classroom management" was included in their formal education or training	Percentage of teachers who felt "well prepared" or "very well prepared" for student behaviour and classroom management	Percentage of teachers for whom "student behaviour and classroom management" was included in their professional development activities	Percentage of teachers reporting a high level of need for professional development in student behaviour and classroom management	Percentage of teachers who feel that they can calm a student who is disruptive or noisy	Percentage of teachers who "agree" or "strongly agree" that they lose quite a lot of time because of students interrupting the lesson
Alberta (Canada)	87	56	45	4	85	26
Australia	84	45	44	5	81	29
Austria	54	21	36	17	85	27
Belgium	73	37	40	10	86	42
- Flemish Comm. (Belgium)	77	43	46	8	93	41
Brazil	75	83	64	19	91	50
Bulgaria	50	46	57	22	88	32
CABA (Argentina)	66	65	40	9	88	35
Chile	76	66	52	17	82	40
Colombia	84	77	70	21	97	22
Croatia	54	38	54	23	82	17
Czech Republic	54	30	45	17	83	18
Denmark	63	53	33	6	96	22
England (UK)	94	68	47	3	84	27
Estonia	79	44	59	17	75	17
Finland	71	29	30	9	76	32
France	55	22	24	13	76	40
Georgia	80	80	84	21	87	7
Hungary	76	81	59	13	94	23
Iceland	58	28	37	19	85	41
Israel	74	59	56	22	82	29
Italy	58	48	65	16	90	24
Japan	81	39	48	43	60	8
Kazakhstan	88	84	83	21	84	10
Korea	66	56	76	28	79	39
Latvia	81	67	66	20	81	21
Lithuania	71	72	69	21	87	16
Malta	83	49	46	11	82	35
Mexico	84	90	62	12	82	20
Netherlands	85	57	58	9	92	33
New Zealand	90	57	47	5	82	31

Countries/economies where indicator is above the OECD average

Countries/economies where indicator is not statistically different from the OECD average

Countries/economies where indicator is below the OECD average

	Percentage of teachers for whom "student behaviour and classroom management" was included in their formal education or training	Percentage of teachers who felt "well prepared" or "very well prepared" for student behaviour and classroom management	Percentage of teachers for whom "student behaviour and classroom management" was included in their professional development activities	Percentage of teachers reporting a high level of need for professional development in student behaviour and classroom management	Percentage of teachers who feel that they can calm a student who is disruptive or noisy	Percentage of teachers who "agree" or "strongly agree" that they lose quite a lot of time because of students interrupting the lesson
Norway	74	50	52	11	80	25
Portugal	62	47	42	18	97	43
Romania	85	82	61	17	89	18
Russia	82	82	77	14	80	10
Saudi Arabia	87	81	74	16	93	26
Shanghai (China)	89	76	80	31	92	10
Singapore	91	65	54	9	79	33
Slovak Republic	62	46	33	19	81	31
Slovenia	37	62	46	16	83	30
South Africa	**93**	**82**	**79**	**16**	**89**	**41**
Spain	40	35	48	14	74	45
Sweden	70	55	41	8	80	27
Turkey	92	88	61	6	90	33
United Arab Emirates	92	92	80	8	92	23
United States	85	61	56	5	79	26
Viet Nam	99	95	94	68	91	12
OECD average-31	72	53	50	14	83	29

Source: OECD, TALIS 2018 Database

Policy pointer 3.21: Implementing system- and school-level policies and practices to combat all forms of bullying

160. Teachers and school staff have a crucial role to play in preventing bullying by working with students closely to build strong and healthy interpersonal relationships. School-level disciplinary policies can focus on monitoring and supervision of all students, communication and partnership among teachers, parent-teacher meetings and classroom management. Furthermore, information sharing and supportive communication is important in helping students cope with the harmful effects of being bullied. School programmes should educate students on measures to take when witnessing bullying, which can help schools identify incidents of bullying promptly and develop suitable responses. Finally, the inclusion of social emotional learning in regular classroom hours can improve the interpersonal and intrapersonal skills of students and build an overall healthy environment in the school.

161. As part of an education systems' role in providing welcoming, respectful and safe learning environments, system-level policies should establish a code of conduct for students in order to combat bullying as a national priority, and develop monitoring frameworks. This can ensure that all schools are held accountable for implementing measures against bullying and encourage this issue to be viewed as a shared responsibility.

Policy pointer 3.24: Reinforcing the training of teachers and school leaders to understand the importance of student well-being for effective learning and identify and detect bullying situations

162. Training programmes for teachers and school leaders should be updated with the most recent trends in bullying incidents in order to better prepare schools for the emerging challenges related to student safety. Training programmes should allow educators to communicate with one another and focus on the different avenues where bullying incidents take place both within and outside the school environment. Support from behavioural experts can help teachers in identifying victims of bullying and intimidation in the classroom and training from counsellors can enable teachers to be better prepared to support all students who are victims of bullying.

Notes

In Australia, head teachers for specific departments (English, Maths, Sciences, History…) are responsible for leading subject-specific teams of teachers, while maintaining full teaching duties and status. They are typically part of the school executive team, and these positions are often a stepping stone into school administration leadership roles.

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Chapter 4:
Teaching and Learning for the Future

Reviewing and analysing a rich set of subjective and more fact-based indicators, this chapter describes what teachers do in their classrooms and how teaching has changed over the past five to ten years. It also examines the extent to which teachers and school leaders engage in related activities to support student learning. Finally, it describes the extent to which teachers and schools are able to innovate in their methods of teaching and working together.

Highlights

- Among the wide range of instructional practices used by teachers in class, those aimed at enhancing classroom management and clarity of instruction are widely applied across the OECD countries and economies participating in TALIS, with at least two-thirds of teachers using them frequently. Practices involving student cognitive activation are less widespread, with about half of teachers using these methods.
- In many countries and economies participating in TALIS, more teachers frequently provide written feedback on student work in addition to a mark in 2018 than they did in 2013, while there is a mixed global trend regarding actively involving students in their own self-assessment or providing immediate feedback to them.
- On average across OECD countries and economies participating in TALIS, more than 80% of teachers feel confident in their capacity to teach and manage their classroom, while over 30% of teachers report difficulties in motivating student learning, particularly when it comes to turning around a situation where a student shows low interest in school work.
- During a typical lesson, teachers spend only 78% of their classroom time on actual teaching and learning, on average across OECD countries and economies participating in TALIS. This share is even lower in schools with a high concentration of students from socio-economically disadvantaged homes and in classrooms taught by young and beginning teachers. In the past five to ten years, classroom time spent on actual teaching and learning has decreased in about half of the countries and economies participating in TALIS.
- In almost half of the countries and economies participating in TALIS, during a typical workweek, teachers teach a higher number of hours than five years ago, while the total number of hours spent on planning and preparing lessons as well as general administrative work has decreased.
- Overall, a vast majority of teachers and school leaders view their colleagues as open to change and their schools as places that have the capacity to adopt innovative practices. However, this viewpoint is less common in European countries than in other parts of the globe.

4.1 Introduction

163. As the recent OECD report, *Teaching for the Future: Effective Classroom Practices To Transform Education* (OECD, 2018[1]) states in its foreword: "Teaching is now more dynamic, challenging and demanding than ever before. Teachers and school leaders are expected to continuously innovate, adapt, and develop their teaching and school practices to equip all students with the skills and knowledge they will need to succeed in life and work." Teachers are the most important school-related influence on student learning. They inspire students to innovate, think and reflect deeply, and work in collaboration with others. It is, therefore, very important to understand how teachers achieve these objectives in their classrooms and how school leaders support and guide them with these tasks.

164. The goal of this chapter is to consider teachers and school leaders as experts and specialists of education. Given the importance of these notions – expertise and specialisation – to professions (Ingersoll and Merrill, 2011[2]), TALIS has aimed at measuring whether and how teachers and school leaders make use of specialised knowledge, skills and practices in their jobs, based on their own opinions, and whether they see room for further development and improvement.

4.2 What teachers do in their classroom and how they feel about it

165. Available research evidence points to teacher quality as the most important school variable in determining the success of an educational system (Hattie, 2009[3]; OECD, 2005[4]). As stated in the recent OECD report, *Teaching for the Future: Effective Classroom Practices To Transform Education*, an education system is effective when its teachers use teaching practices that improve student performance and develop the full potential of all students, regardless of their socio-economic background, native language or migrant status. However, it has proven difficult

to understand what makes teaching "good" or "effective". While most people can clearly remember the joy of learning from a good teacher and the occasional frustration with poor teaching, it would be hard for many to pinpoint the precise factors that make good teaching good and poor teaching less so. But while teaching quality is a difficult concept to measure, it can be inferred, based on observable indicators, such as the demonstration of improved motivation or learning gains by students, the implementation of quality processes or teachers' perception of self-efficacy (OECD, 2018, p. 54[1]).

166. Using teachers' self-reports to measure instructional quality is particularly challenging, because these reports frequently reflect responses that the teachers consider socially desirable (Little, Goe and Bell, 2009[5]; van de Vijver and He, 2014[6]). This measurement issue often occurs when respondents are asked to report their level of agreement or disagreement on the importance they attribute to each instructional practice. Also, teachers find it very difficult to talk about their pedagogies, methods and practices (Pollard, 2010[7]). Indeed, many teachers act both consciously and unconsciously in their classroom as a response to the community of practice they are immersed in, making it complicated to recall their practices as their own practices. Indeed, past analyses of the TALIS-PISA link data showed that teachers from the same school tend to share a more similar approach to teaching than two teachers working in two different schools. This suggests that teaching strategies are part of a "teaching culture" within the school (Le Donné, Fraser and Bousquet, 2016[8])

167. Faced with these challenges, TALIS has developed a rich set of complementary indicators aiming to measure what teachers do in their classrooms. TALIS asks teachers to identify a particular class chosen at random from their teaching schedule[1] (hereafter "the target class") and then respond to a series of questions about this target class and how they teach the students. TALIS then uses fact-based questions about the frequency with which teachers use various practices and how much time they spend on different activities in their classroom. To complement these factual indicators, TALIS also asks teachers their opinions on how well they feel they are able to implement certain practices and achieve certain goals.[2]

4.2.1 Effective teaching strategies

168. Teachers' classroom practices are central to any study of teaching and learning, because what teachers do is the strongest direct school-based influence on student learning outcomes (Hattie, 2009[3]). Most other school factors influence student learning mainly because they influence teachers' practices and thereby have a transmitted influence on student learning. Teachers' classroom practices embrace a number of aspects, some of which are highly important for students' learning outcomes, such as motivation to learn and achievement in subject areas (i.e. mathematics and first-language learning) (Baumert et al., 2010[9]; Creemers and Kyriakides, 2008[10]; Hattie, 2009[3]; Isac et al., 2015[11]; Kunter et al., 2013[12]; Nilsen and Gustafsson, 2016[13]; O'Dwyer, Wang and Shields, 2015[14]).

169. While this chapter deliberately adopts a teacher-oriented perspective on student learning, it also acknowledges that students bring their own family values, personal ability, motivation, well-being and school trajectory to the classroom. These all have a powerful influence on the way students acquire new skills, knowledge, values and attitudes, which may also influence the way teachers teach them. This chapter adopts a positive concept of humankind, considering that all students, regardless of their social or cultural background or gender, are able to learn, provided their learning is supported by appropriate teaching approaches.

170. Instructional quality is understood differently across the field of education, but there is a consensus that the concept is multidimensional (Fauth et al., 2014[15]; Kane and Cantrell, 2010[16]; Kunter and Voss, 2013[17]; Wagner et al., 2013[18]). A considerable body of research exists on the impact of teaching practices on students' learning outcomes (Lavy, 2016[19]; Rjosk et al., 2014[20]). More specifically, TALIS asks teachers about the use of effective instructional practices (i.e. practices that have proven to be positively associated with students' learning outcomes). These effective practices can be grouped into four strategies: classroom management; clarity of instruction; cognitive activation; and enhanced activities (Figure 4.1). TALIS inquires about the frequency with which teachers

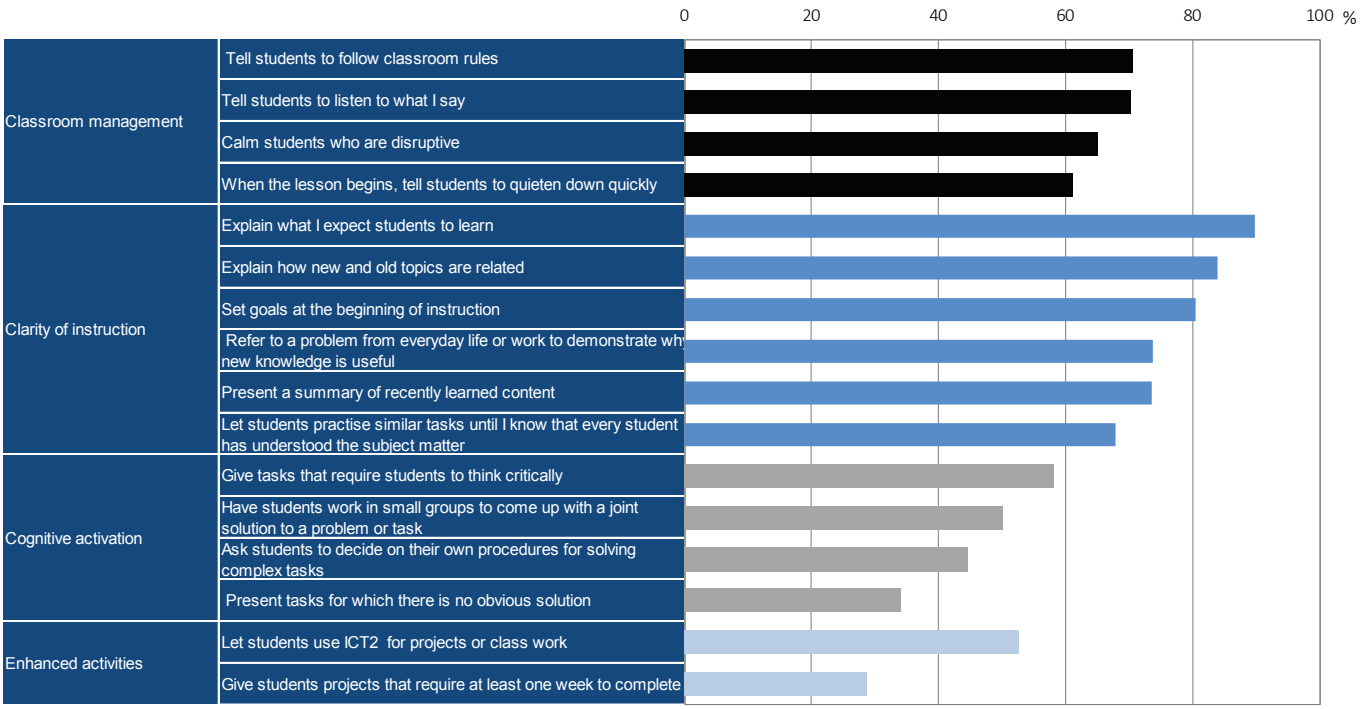
use each practice in their target class, asking them to mark one choice among four options: "never or almost never"; "occasionally"; "frequently"; or "always".

171. Classroom management is often described as the actions teachers take to ensure an orderly environment and effective use of time during lessons (van Tartwijk and Hammerness, 2011[21]). Numerous studies have identified classroom management as an important contributor to student learning and a strong predictor of student achievement – see, for instance, Baumert et al., (2010[9]); Klusmann et al., (2008[22]); van Tartwijk and Hammerness, (2011[21]). Large-scale international assessments of student achievement have found a positive relationship in several countries between an orderly environment (as reported by teachers) and student achievement (Le Donné, Fraser and Bousquet, 2016[23]; Martin et al., 2013[24]; Wang and Degol, 2016[25]).

172. TALIS provides insights on the things teachers do to maintain order that may already exist in the classroom or to re-establish order. In 2018, on average across OECD countries and economies that participate in TALIS,[3] more than 60% of teachers report that they frequently or always engage in practices that aim to maintain an orderly classroom, such as telling students to follow classroom rules (71%) and listen to what they say (70%). Slightly fewer teachers report that they frequently or always take measures to react to disruptions from students in the classroom, such as asking students to quieten down quickly (61%), as well as calming students who are disruptive (65%) (Figure 4.1). If quite a few teachers rarely engage in these classroom management practices, it may be because they do not need to, either because their students take care to create a pleasant learning atmosphere or because the teachers enjoy natural authority and do not have to keep repeating classroom rules to students.

Figure 4.1: Teaching practices

Percentage of lower secondary teachers who "frequently" or "always" use the following practices in their class [1] (OECD average-31)



1. These data are reported by teachers and refer to a randomly chosen class they currently teach from their weekly timetable.
Note: ICT (Information and communication technology)
Values are grouped by teaching strategy and ranked in descending order of the use of teaching practices within the respective teaching strategy.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.TC_PRACT.

Table 4.1: Teacher Practices in Class

	Percentage of teachers who reported that they "frequently" or "always" use the following practices in their class[1]																													
	Present a summary of recently learned content		Set goals at the beginning of instruction		Explain what I expect students to learn		Explain how new and old topics are related		Present tasks for which there is no obvious solution		Give tasks that require students to think critically		Have students work in small groups to come up with a joint solution to a problem or task		Ask students to decide on their own procedures for solving complex tasks		Tell students to follow classroom rules		Tell students to listen to what I say		Calm students who are disruptive		When the lesson begins, tell students to quieten down quickly		Refer to a problem from everyday life or work to demonstrate why new knowledge is useful		Let students practise similar tasks until I know that every student has understood the subject matter		Give students projects that require at least one week to complete		Let students use ICT[2] for projects or class work	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Alberta (Canada)	81.6	(2.2)	79.8	(2.0)	91.9	(1.7)	86.5	(3.1)	31.8	(2.3)	76.0	(2.2)	56.7	(2.5)	54.9	(2.2)	54.0	(3.0)	50.4	(2.5)	58.2	(3.0)	61.9	(2.8)	74.6	(1.5)	72.5	(2.5)	44.0	(3.1)	65.7	(2.9)
Australia	74.2	(0.9)	82.1	(0.9)	93.4	(0.7)	82.8	(0.9)	29.2	(1.0)	69.5	(1.3)	51.3	(1.0)	44.1	(1.5)	58.4	(1.1)	59.8	(1.1)	59.7	(1.1)	67.7	(1.1)	72.1	(1.0)	67.0	(1.2)	46.2	(1.2)	78.2	(1.1)
Austria	67.2	(0.9)	60.2	(1.0)	82.9	(0.7)	77.5	(0.7)	12.4	(0.6)	47.2	(0.9)	42.5	(1.1)	35.5	(1.0)	59.0	(1.0)	60.0	(0.9)	56.1	(1.0)	58.0	(1.1)	74.8	(0.8)	55.8	(0.9)	17.0	(0.8)	32.9	(1.0)
Belgium	70.6	(0.8)	60.6	(0.8)	91.9	(0.5)	83.0	(0.7)	30.9	(0.8)	43.7	(0.8)	34.1	(0.9)	25.0	(0.8)	80.4	(0.8)	78.5	(0.8)	78.4	(0.7)	82.2	(0.7)	68.4	(0.9)	66.1	(0.8)	21.5	(0.9)	28.9	(0.9)
- Flemish Comm. (Belgium)	62.2	(1.2)	52.7	(1.2)	95.7	(0.5)	86.4	(0.8)	25.3	(1.0)	39.9	(1.1)	41.6	(1.1)	27.2	(1.2)	79.4	(1.2)	77.2	(1.1)	79.9	(0.9)	86.0	(0.7)	73.9	(1.0)	66.4	(1.0)	21.8	(1.2)	37.8	(1.3)
Brazil	81.6	(1.0)	85.5	(1.1)	93.7	(0.6)	89.1	(0.8)	48.9	(1.5)	84.2	(1.2)	55.6	(1.6)	39.5	(1.5)	90.4	(0.7)	91.1	(0.7)	87.0	(1.0)	78.1	(1.3)	91.3	(0.7)	75.9	(1.4)	43.4	(1.6)	41.6	(1.5)
Bulgaria	88.3	(0.7)	92.6	(0.6)	96.1	(0.4)	92.6	(0.5)	19.7	(0.9)	60.6	(1.4)	48.6	(1.1)	52.5	(1.0)	78.7	(1.2)	75.6	(1.2)	68.4	(1.3)	62.5	(1.4)	81.9	(1.0)	79.3	(0.9)	36.9	(1.1)	44.2	(1.3)
CABA (Argentina)	65.1	(1.5)	79.9	(1.2)	84.6	(1.6)	92.6	(0.7)	60.3	(1.8)	81.3	(1.3)	70.7	(1.6)	57.7	(1.3)	81.4	(1.1)	77.6	(0.9)	74.3	(1.1)	66.5	(1.1)	74.8	(1.3)	74.7	(1.4)	52.4	(1.3)	64.0	(2.0)
Chile	77.1	(1.2)	94.6	(0.7)	96.0	(0.5)	92.2	(0.8)	57.7	(1.5)	70.0	(1.4)	71.0	(1.5)	67.1	(1.6)	91.2	(0.9)	87.8	(1.0)	85.8	(1.1)	76.0	(1.4)	88.2	(1.1)	88.0	(0.9)	50.8	(1.5)	63.4	(1.6)
Colombia	77.8	(1.3)	90.6	(1.0)	94.8	(0.7)	92.9	(0.9)	61.9	(1.9)	87.5	(1.2)	85.0	(1.6)	65.3	(1.6)	86.1	(1.1)	81.4	(1.4)	82.5	(1.5)	68.2	(1.6)	92.0	(0.8)	84.2	(1.0)	55.2	(1.3)	70.8	(1.4)
Croatia	59.8	(0.8)	77.7	(1.0)	95.3	(0.4)	92.8	(0.7)	34.2	(0.8)	60.4	(1.1)	30.7	(1.3)	22.3	(0.9)	51.3	(1.2)	48.4	(1.3)	37.9	(1.3)	29.2	(1.2)	90.1	(0.9)	64.6	(1.0)	13.0	(0.7)	46.2	(1.2)
Cyprus*	90.3	(1.1)	92.4	(0.7)	93.6	(0.7)	94.3	(0.7)	32.2	(1.8)	75.0	(1.5)	52.1	(1.8)	46.5	(1.4)	85.6	(1.6)	83.2	(1.6)	83.9	(1.7)	74.5	(1.4)	82.5	(1.5)	82.4	(1.3)	25.6	(2.0)	54.2	(1.5)
Czech Republic	83.5	(0.8)	88.8	(0.7)	83.2	(0.7)	82.6	(0.7)	10.6	(0.6)	39.8	(0.8)	27.3	(1.0)	32.7	(1.0)	50.9	(1.1)	51.9	(1.1)	39.3	(1.1)	32.4	(1.0)	69.2	(0.9)	63.6	(1.0)	8.7	(0.6)	35.4	(1.0)
Denmark	71.1	(1.3)	58.7	(1.3)	81.0	(1.4)	71.8	(1.2)	50.8	(1.3)	61.1	(1.3)	80.3	(1.1)	51.8	(1.3)	53.0	(1.5)	55.2	(1.3)	57.0	(1.3)	64.2	(1.3)	60.9	(1.5)	53.8	(1.5)	24.9	(1.2)	90.4	(0.9)
England (UK)	73.4	(1.1)	89.0	(0.8)	95.4	(0.6)	85.1	(0.9)	33.6	(1.4)	67.5	(1.4)	50.9	(1.5)	43.4	(1.6)	67.6	(1.4)	69.3	(1.3)	62.6	(1.1)	75.6	(1.0)	65.2	(1.2)	67.5	(1.1)	31.3	(1.0)	41.3	(1.4)
Estonia	78.1	(1.0)	84.7	(0.9)	92.1	(0.6)	84.5	(0.9)	16.4	(1.1)	46.2	(1.2)	39.5	(1.3)	29.0	(1.1)	40.9	(1.2)	32.8	(1.0)	35.5	(1.1)	21.3	(0.9)	68.2	(1.3)	69.8	(1.0)	14.4	(0.8)	45.6	(1.0)
Finland	59.7	(1.2)	64.2	(1.0)	73.0	(1.0)	72.9	(1.1)	34.5	(1.1)	37.2	(1.2)	42.3	(1.1)	26.3	(1.1)	58.7	(1.3)	64.5	(1.1)	59.7	(1.1)	63.6	(1.2)	68.2	(1.1)	50.4	(1.2)	22.4	(0.9)	50.7	(1.6)
France	78.2	(0.9)	78.8	(0.8)	89.8	(0.6)	71.5	(1.0)	25.9	(0.9)	50.3	(1.1)	49.2	(1.2)	26.3	(0.8)	77.3	(0.9)	76.1	(0.8)	70.5	(1.1)	69.4	(1.0)	57.5	(0.9)	55.2	(1.1)	27.4	(0.8)	36.1	(1.0)
Georgia	92.1	(0.7)	94.4	(0.6)	92.7	(0.7)	94.1	(0.7)	48.1	(1.7)	76.8	(1.2)	62.4	(1.5)	67.9	(1.3)	54.4	(1.7)	34.8	(1.7)	34.1	(1.6)	34.2	(1.7)	74.4	(1.4)	87.6	(1.0)	25.8	(1.3)	53.3	(1.4)
Hungary	79.9	(0.9)	86.1	(0.7)	94.9	(0.6)	87.2	(0.6)	28.3	(0.9)	55.9	(1.2)	35.5	(1.0)	36.3	(1.0)	87.6	(0.7)	73.3	(1.1)	66.7	(1.2)	62.5	(1.2)	84.7	(0.8)	82.5	(0.9)	9.9	(0.7)	48.1	(1.3)
Iceland	38.2	(1.7)	69.7	(1.6)	83.4	(1.3)	74.8	(1.6)	19.4	(1.4)	50.1	(1.7)	44.5	(1.6)	52.6	(1.6)	66.8	(1.3)	76.8	(1.2)	75.3	(1.4)	55.2	(1.8)	40.5	(1.7)	48.8	(1.9)	30.8	(1.4)	54.0	(1.9)

	Percentage of teachers who reported that they "frequently" or "always" use the following practices in their class[1]																													
	Present a summary of recently learned content		Set goals at the beginning of instruction		Explain what I expect students to learn		Explain how new and old topics are related		Present tasks for which there is no obvious solution		Give tasks that require students to think critically		Have students work in small groups to come up with a joint solution to a problem or task		Ask students to decide on their own procedures for solving complex tasks		Tell students to follow classroom rules		Tell students to listen to what I say		Calm students who are disruptive		When the lesson begins, tell students to quieten down quickly		Refer to a problem from everyday life or work to demonstrate why new knowledge is useful		Let students practise similar tasks until I know that every student has understood the subject matter		Give students projects that require at least one week to complete		Let students use ICT[2] for projects or class work	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Israel**	71.9	(1.0)	79.1	(1.4)	85.5	(1.2)	89.1	(0.9)	34.2	(1.3)	48.6	(1.5)	35.0	(1.3)	35.4	(1.5)	85.4	(0.9)	82.9	(1.0)	76.8	(1.1)	69.9	(1.2)	71.2	(1.5)	75.8	(1.5)	28.4	(1.1)	51.8	(1.7)
Italy	81.3	(0.9)	82.8	(0.8)	85.4	(0.9)	93.4	(0.5)	44.2	(1.2)	67.7	(1.0)	45.7	(1.1)	43.3	(1.2)	80.3	(0.8)	74.7	(1.0)	65.0	(1.1)	50.4	(1.1)	82.5	(0.7)	85.5	(0.8)	20.2	(0.8)	46.6	(1.2)
Japan	58.6	(1.0)	84.3	(1.0)	84.9	(0.8)	63.1	(1.0)	16.1	(0.8)	12.6	(0.7)	44.4	(1.5)	24.9	(1.0)	64.2	(1.2)	62.9	(1.2)	44.8	(1.4)	38.4	(1.4)	53.9	(0.9)	31.3	(1.0)	11.1	(0.6)	17.9	(1.0)
Kazakhstan	75.1	(0.9)	91.3	(0.5)	92.3	(0.5)	91.9	(0.5)	61.4	(1.1)	78.6	(0.9)	79.3	(0.9)	75.4	(0.9)	63.1	(0.9)	60.0	(0.9)	42.5	(0.9)	43.8	(1.0)	82.4	(0.7)	70.3	(0.8)	33.6	(1.2)	65.7	(1.2)
Korea	80.5	(0.8)	81.5	(0.8)	94.2	(0.5)	86.3	(0.8)	38.1	(1.0)	44.8	(1.1)	59.2	(1.3)	50.8	(1.1)	79.3	(0.9)	81.7	(0.9)	74.8	(1.1)	69.2	(1.2)	82.1	(0.8)	65.8	(1.1)	31.4	(1.0)	29.6	(1.1)
Latvia	84.8	(1.2)	93.3	(0.7)	94.9	(0.6)	91.5	(0.9)	57.4	(1.5)	73.4	(1.1)	46.7	(1.8)	45.5	(2.1)	93.2	(0.7)	92.9	(0.6)	49.6	(1.4)	61.4	(1.4)	88.5	(0.9)	83.3	(1.0)	21.3	(1.1)	48.3	(1.8)
Lithuania	65.0	(0.9)	97.6	(0.3)	98.7	(0.2)	90.6	(0.5)	13.4	(0.7)	76.6	(0.9)	52.2	(1.1)	69.1	(0.8)	69.3	(1.0)	65.6	(1.0)	52.5	(1.3)	37.7	(1.1)	87.1	(0.7)	77.2	(1.0)	25.6	(0.9)	61.8	(1.0)
Malta	75.2	(1.5)	84.7	(1.4)	87.7	(1.1)	81.3	(1.4)	30.9	(1.2)	59.6	(1.8)	42.7	(1.5)	40.6	(1.3)	76.7	(1.8)	76.0	(1.3)	69.0	(1.8)	74.3	(2.1)	77.3	(1.4)	75.2	(1.3)	35.3	(1.3)	48.0	(1.5)
Mexico	65.6	(1.2)	91.1	(0.7)	94.8	(0.5)	91.5	(0.6)	38.4	(1.3)	67.4	(1.0)	70.9	(1.1)	67.6	(1.0)	84.9	(0.7)	86.3	(0.8)	81.6	(0.8)	64.3	(1.1)	89.2	(0.7)	81.7	(1.1)	53.8	(1.0)	68.7	(1.3)
Netherlands	65.0	(1.8)	77.1	(1.9)	91.7	(1.1)	86.7	(1.3)	39.4	(2.1)	54.3	(1.7)	47.7	(2.2)	39.9	(2.0)	82.2	(1.6)	87.6	(1.4)	81.4	(1.6)	79.7	(2.2)	64.2	(1.7)	61.4	(2.2)	27.7	(1.8)	51.3	(2.8)
New Zealand	63.4	(1.5)	78.8	(1.3)	93.9	(0.6)	77.5	(1.2)	28.7	(1.4)	69.4	(1.3)	59.5	(1.8)	50.9	(1.8)	56.6	(1.6)	56.4	(1.5)	59.5	(1.6)	61.5	(1.7)	72.6	(1.3)	67.8	(1.4)	42.3	(1.5)	79.8	(1.8)
Norway	77.2	(0.8)	75.4	(0.9)	85.7	(0.7)	79.9	(0.8)	53.1	(1.2)	51.1	(1.0)	63.0	(1.3)	52.5	(1.0)	52.2	(1.3)	57.2	(1.3)	59.2	(1.4)	65.9	(1.2)	66.5	(1.1)	47.2	(0.9)	28.8	(1.2)	m	m
Portugal	84.4	(0.7)	64.6	(1.0)	83.8	(0.8)	92.5	(0.5)	67.3	(0.8)	68.4	(0.8)	49.9	(1.0)	44.5	(1.0)	96.8	(0.3)	96.7	(0.3)	85.0	(0.7)	81.2	(0.8)	93.1	(0.5)	72.9	(0.9)	32.2	(0.9)	56.8	(1.0)
Romania	78.2	(0.9)	97.0	(0.4)	97.8	(0.3)	96.7	(0.4)	22.3	(0.9)	67.9	(1.2)	52.8	(1.0)	43.7	(1.4)	88.9	(0.9)	84.5	(0.9)	73.4	(1.2)	61.1	(1.6)	83.1	(1.0)	86.6	(0.7)	33.7	(1.4)	56.2	(1.2)
Russia	66.4	(1.3)	84.8	(1.0)	79.5	(1.1)	82.0	(1.1)	58.1	(1.3)	59.7	(1.4)	42.5	(1.4)	44.9	(1.5)	44.5	(1.5)	44.2	(1.5)	29.8	(1.2)	28.1	(1.2)	79.5	(1.2)	77.4	(1.2)	25.9	(1.0)	69.0	(1.1)
Saudi Arabia	83.3	(0.9)	88.7	(0.8)	89.5	(0.7)	89.7	(0.7)	43.9	(1.5)	62.2	(1.6)	72.4	(1.5)	55.8	(1.5)	87.9	(0.8)	88.0	(0.9)	84.5	(1.1)	81.3	(1.1)	77.8	(1.3)	81.1	(1.0)	42.1	(1.4)	48.6	(1.6)
Shanghai (China)	92.9	(0.5)	97.7	(0.3)	97.0	(0.4)	93.4	(0.5)	43.7	(0.9)	53.3	(1.3)	70.0	(1.0)	67.4	(1.0)	68.0	(1.0)	53.2	(0.9)	54.9	(0.9)	63.1	(1.0)	91.7	(0.5)	76.7	(0.8)	20.8	(0.9)	24.3	(0.9)
Singapore	73.9	(0.8)	81.9	(0.7)	92.3	(0.5)	80.5	(0.8)	35.3	(0.9)	54.1	(0.9)	44.9	(1.0)	36.3	(0.9)	75.8	(0.8)	74.8	(0.8)	63.9	(0.9)	77.8	(0.7)	70.9	(0.8)	71.3	(1.0)	34.3	(1.0)	42.8	(0.8)
Slovak Republic	84.5	(0.8)	89.1	(0.7)	92.2	(0.5)	89.1	(0.7)	29.9	(1.0)	59.1	(1.1)	40.2	(1.0)	48.7	(1.4)	72.6	(1.0)	70.2	(1.0)	63.3	(1.0)	55.5	(1.1)	72.0	(1.1)	70.9	(1.1)	15.8	(0.7)	47.3	(1.2)
Slovenia	79.2	(1.0)	73.6	(1.1)	89.4	(0.7)	84.2	(0.8)	29.5	(1.0)	57.6	(1.1)	28.4	(1.3)	28.3	(1.3)	62.7	(1.3)	62.1	(1.3)	65.8	(1.2)	46.1	(1.2)	80.1	(1.0)	68.9	(1.0)	11.6	(0.6)	36.5	(1.2)
South Africa	80.0	(1.1)	82.6	(1.5)	92.0	(1.0)	86.9	(1.3)	52.3	(2.6)	83.1	(1.4)	54.1	(1.8)	53.9	(2.0)	84.7	(1.2)	86.1	(1.3)	83.5	(1.8)	83.3	(1.4)	83.5	(1.1)	79.0	(1.5)	55.8	(2.1)	38.3	(1.8)
Spain	74.5	(0.8)	80.4	(0.7)	93.6	(0.5)	89.1	(0.9)	44.2	(1.6)	65.4	(1.1)	45.9	(1.1)	41.1	(1.0)	81.1	(0.7)	81.8	(0.9)	77.4	(0.8)	72.8	(0.9)	81.2	(1.2)	76.7	(0.7)	33.0	(1.0)	51.4	(1.4)
Sweden	75.5	(1.2)	82.2	(1.1)	89.9	(0.8)	70.8	(1.4)	24.7	(1.1)	48.9	(1.4)	51.5	(1.4)	44.6	(1.3)	56.0	(1.4)	59.6	(1.3)	55.9	(1.4)	58.0	(1.5)	58.6	(1.4)	65.5	(1.5)	34.9	(1.2)	63.3	(1.4)
Chinese Taipei	82.9	(0.7)	88.5	(0.6)	85.7	(0.6)	91.6	(0.5)	36.4	(0.9)	48.8	(1.0)	40.2	(1.0)	39.3	(0.9)	81.5	(0.8)	79.9	(0.8)	66.8	(0.9)	71.2	(0.9)	84.3	(0.6)	67.0	(0.8)	20.3	(0.8)	14.7	(0.7)
Turkey	84.7	(0.7)	93.3	(0.5)	91.7	(0.6)	93.2	(0.6)	21.9	(0.9)	54.7	(1.0)	43.9	(1.1)	57.1	(1.2)	81.4	(0.8)	84.5	(0.7)	78.5	(0.9)	64.3	(0.8)	86.6	(0.8)	80.9	(0.9)	30.2	(1.1)	66.6	(1.0)

	Percentage of teachers who reported that they "frequently" or "always" use the following practices in their class[1]																													
	Present a summary of recently learned content		Set goals at the beginning of instruction		Explain what I expect students to learn		Explain how new and old topics are related		Present tasks for which there is no obvious solution		Give tasks that require students to think critically		Have students work in small groups to come up with a joint solution to a problem or task		Ask students to decide on their own procedures for solving complex tasks		Tell students to follow classroom rules		Tell students to listen to what I say		Calm students who are disruptive		When the lesson begins, tell students to quieten down quickly		Refer to a problem from everyday life or work to demonstrate why new knowledge is useful		Let students practise similar tasks until I know that every student has understood the subject matter		Give students projects that require at least one week to complete		Let students use ICT[2] for projects or class work	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
United Arab Emirates	86.7	(0.5)	96.5	(0.3)	97.0	(0.3)	94.2	(0.3)	46.7	(0.9)	82.4	(0.5)	84.2	(0.5)	70.0	(0.7)	83.5	(0.6)	77.7	(0.6)	79.7	(0.6)	77.4	(0.6)	85.0	(0.5)	85.0	(0.5)	54.7	(0.8)	76.8	(0.6)
United States	72.1	(3.3)	84.5	(1.6)	91.7	(1.0)	87.7	(1.1)	27.6	(2.0)	78.9	(1.3)	59.7	(4.0)	45.9	(1.5)	60.4	(3.0)	55.2	(1.7)	57.4	(3.4)	59.1	(1.5)	71.3	(2.3)	66.8	(3.0)	33.0	(2.4)	60.1	(2.9)
Viet Nam	84.2	(1.6)	92.1	(1.3)	85.9	(1.6)	91.6	(1.5)	73.7	(1.8)	41.3	(1.6)	73.6	(1.6)	60.2	(1.7)	87.5	(1.5)	58.7	(2.2)	69.8	(2.2)	75.3	(1.9)	87.2	(1.6)	85.7	(1.6)	24.7	(1.4)	42.8	(2.0)
OECD average-31	73.5	(0.2)	80.5	(0.2)	89.9	(0.1)	83.9	(0.2)	33.9	(0.2)	58.1	(0.2)	50.1	(0.3)	44.5	(0.2)	70.7	(0.2)	70.2	(0.2)	65.0	(0.3)	61.1	(0.2)	73.7	(0.2)	67.9	(0.2)	28.6	(0.2)	52.7	(0.3)
EU total-23	76.1	(0.3)	81.4	(0.3)	90.7	(0.2)	85.1	(0.3)	34.1	(0.4)	60.0	(0.4)	46.7	(0.4)	39.1	(0.4)	75.4	(0.3)	74.3	(0.3)	67.2	(0.3)	64.7	(0.3)	73.1	(0.3)	70.4	(0.3)	26.1	(0.3)	46.1	(0.4)
TALIS average-48	75.7	(0.2)	83.4	(0.1)	90.4	(0.1)	86.2	(0.1)	37.5	(0.2)	61.0	(0.2)	52.7	(0.2)	47.0	(0.2)	72.4	(0.2)	70.2	(0.2)	65.0	(0.2)	62.0	(0.2)	76.7	(0.2)	71.3	(0.2)	30.5	(0.2)	51.3	(0.2)

1. These data are reported by teachers and refer to a randomly chosen class they currently teach from their weekly timetable.

2. ICT: Information and communication technology.

Note: For additional information on interpretation of the results, see Annex XX.

* Information on data for Cyprus: https://oe.cd/cyprus-disclaimer

** Information on data for Israel: https://oe.cd/israel-disclaimer

173. Researchers have also identified clarity of instruction as an important influence on student learning (Kyriakides, Campbell and Gagatsis, 2000[26]; Scherer and Gustafsson, 2015[27]; Seidel, Rimmele and Prenzel, 2005[28]). In 2018, on average across OECD countries and economies, almost all teachers frequently use practices pertaining to clarity of instruction: 90% of teachers report that they frequently or always explain to students what they expect them to learn; 84% explain how new and old topics are related; 81% set goals at the beginning of instruction; 74% refer to a problem from everyday life or work to demonstrate why knowledge is useful or present a summary of recently learned content; and 68% let students practice similar tasks until they know that every student has understood the subject matter (Table 4.1).

174. In South Africa teachers reported that they frequently: set goals at the beginning of instruction (83%); ask students to decide on their own procedures for solving complex tasks (54%); and let students practice similar tasks until I know that every student has understood the subject matter (79%).

175. Cognitive activation practices seem to be less widespread than practices pertaining to clarity of instruction. Cognitive activation consists of instructional activities that require students to evaluate, integrate and apply knowledge within the context of problem-solving (Lipowsky et al., 2009[29]). These activities are commonly associated with group work on complicated problems. In 2018, on average across OECD countries and economies: 58% of teachers report that they frequently or always give tasks that require students to think critically; 50% have students work in small groups to come up with a joint solution to a problem or task; 44% ask students to decide on their own procedures for solving complex tasks; and only 34% present tasks for which there is no obvious solution (Table 4.1). Cognitive activation practices are perhaps the most demanding and complex of the teaching strategies, possibly because they are more closely connected to subject domain than the other three strategies[4] (Baumert et al., 2010[9]; Hiebert and Grouws, 2007[30]; Klieme, Pauli and Reusser, 2009[31]).

176. Finally, TALIS also asks teachers about the frequency with which they use what can be referred to as "enhanced activities", which encompass practices that give students the chance to work independently, using some specific tools, such as information and communication technology (ICT), or over a longer period of time (Vieluf et al., 2012[32]). On average across the OECD, about 53% of teachers report that they frequently or always let students use ICT for projects or class work, while only 29% give students projects that require at least one week to complete (Table 4.1). Enhanced activities are not as widespread as other teaching strategies, potentially because they require additional resources and command of them (access to and skills to use ICT) and/or more sophisticated planning. They also require students being ready for such activity, as it demands higher responsibility and planning skills from them.

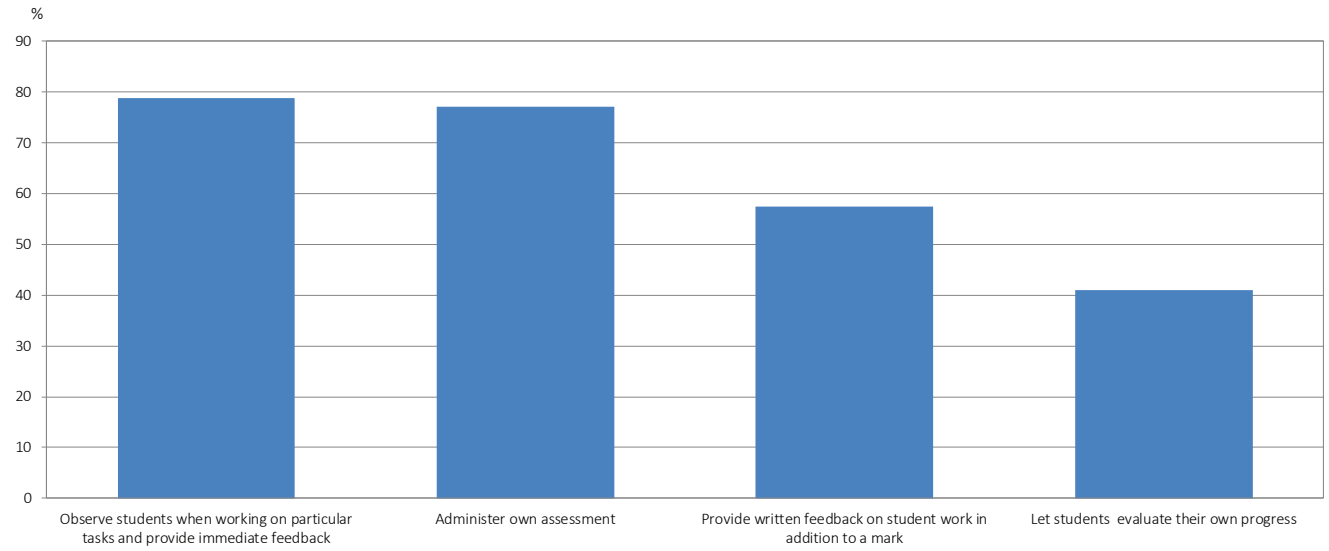
4.2.2 Teachers' assessment practices

177. In addition to effectively employing the four teaching strategies mentioned above, teachers need to provide feedback to students about their learning progress in the form of both formative and summative assessment (Hattie and Timperley, 2007[39]; Kyriakides and Creemers, 2008[40]; Scheerens, 2016[41]). Formative assessment consists of providing feedback and information during the teaching process, while learning is taking place. Summative assessment typically takes place after the teaching process has been completed and provides information and feedback about learning outcomes. Research shows that effective teaching includes providing constructive feedback and that this type of feedback has positive implications for teaching and learning (Muijs and Reynolds, 2001[42]). TALIS asks teachers to report the frequency with which they use a set of four practices for assessing student learning in their target class. Among the four assessment practices, two are widespread: on average across the OECD, 79% of teachers report that they frequently or always observe students and provide immediate feedback; and 77% of teachers report that they frequently or always administer their own assessment to students. Fewer teachers (58% on average across the OECD) report that they provide written feedback on student work in addition to a mark. Less than half of teachers across the OECD (41%) report that they let students evaluate their own progress, suggesting a smaller prevalence of formative assessment practices (Figure 4.2). However, there

are large cross-country variations in the frequency with which teachers assess student learning. Regardless of the assessment practice used, a greater proportion of teachers generally report assessing students frequently in Latin American and English-speaking countries than in other areas of the globe.

Figure 4.2:Teachers' assessment practices

Percentage of lower secondary teachers who "frequently" or "always" use the following assessment methods in their class [1] (OECD average-31)



1. These data refer to a randomly chosen class teachers currently teach from their weekly timetable.
Values are ranked in descending order of the use of teachers' assessment practices.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.TC_ASSESS.

178. TALIS findings on changes in teachers' assessment practices complement those established from four cycles of the Trends in International Mathematics and Science Study (TIMSS) of the International Association for the Evaluation of *Educational* Achievement (IEA). TIMSS data from 1995 to 2007 revealed a slight tendency towards increased use of assessment practices, such as using a quiz or a test, in the 8th grade on an international scale, comprising 18 education systems (Rozman and Klieme, 2017[43]). TALIS results from 2013 and 2018 also support the notion of a continued slight tendency towards increased use of some kind of assessment, especially of written assessment, but does not support the notion of an increased use of immediate feedback or student self-assessment.

179. In South Africa, teachers also attend in-service training on assessment. In previous studies on curriculum review, the need for further development on assessment strategies and feedback has been flagged as an important developmental need. In the last 12 months prior to the survey, teachers across all provinces had received training, with the highest percentage teacher training on assessment conducted in KwaZulu-Natal (KZN) (see figure 4.3. The TALIS data also shows that at a provincial level, where teachers were exposed to a higher percentage of training sessions, teachers indicated a greater use of a variety of assessment strategies in their classroom practice (see results for Northern Cape (NC) and KZN in figure 4.4).

Figure 4.3: Teacher Training on Assessment

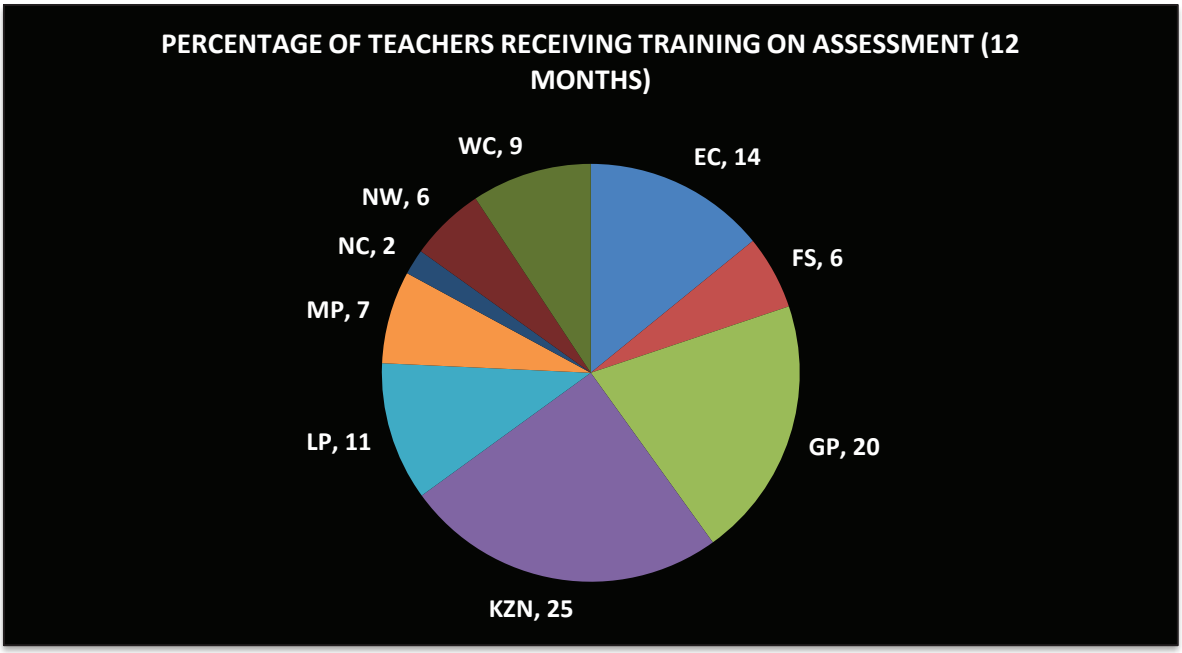
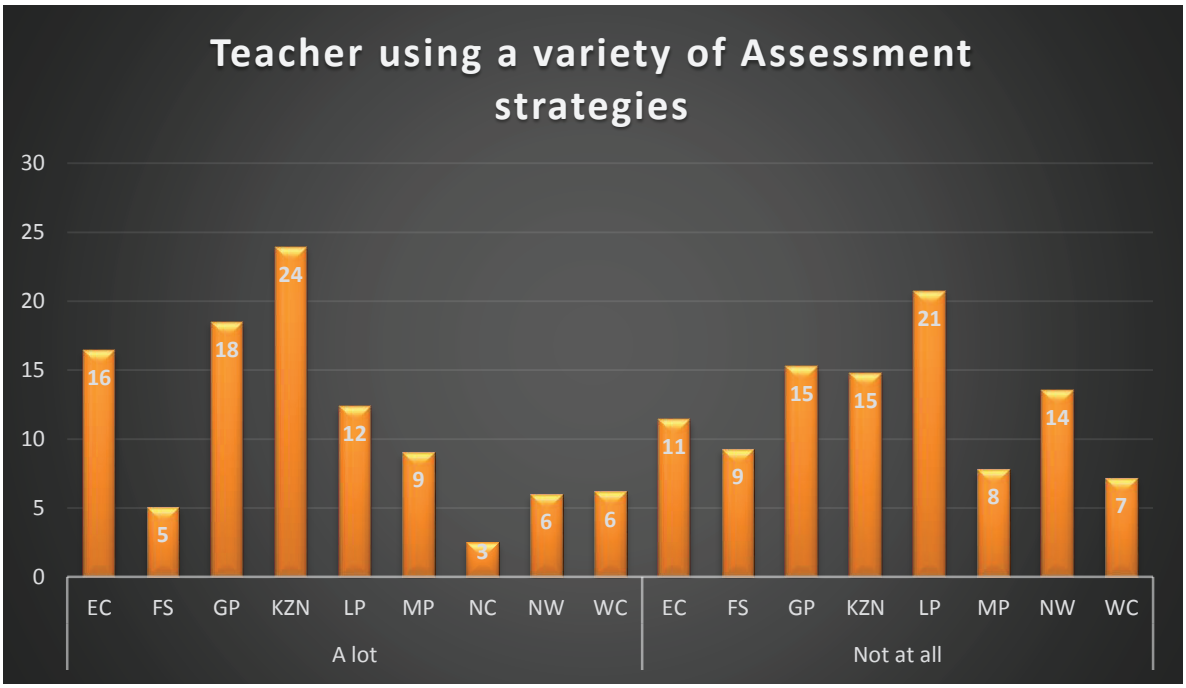


Figure 4.4: Teacher's use of a variety of assessment strategies in classroom practice

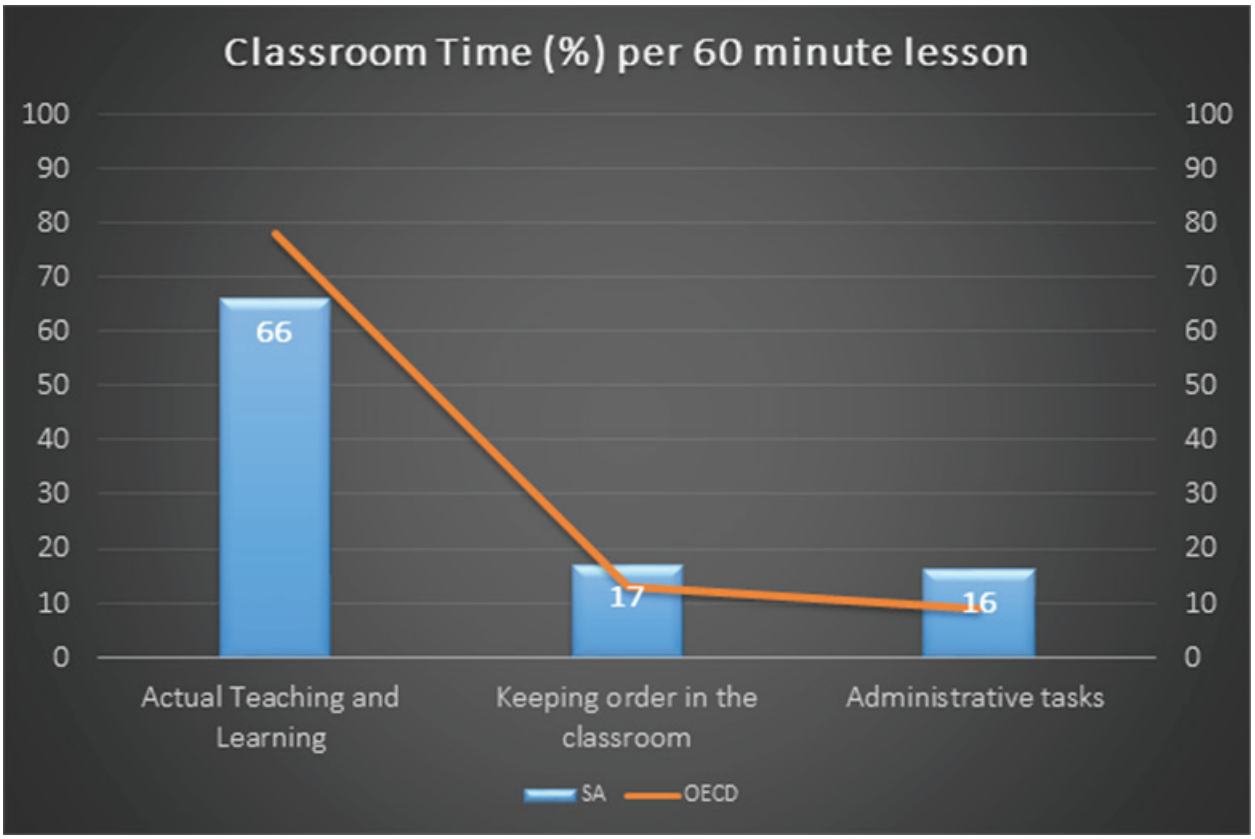


4.2.3 Teachers' use of classroom time

180. All around the world, students enrolled in compulsory lower secondary education spend a considerable amount of time in the classroom – 913 hours per year on average in the OECD countries – see Table D1.1. in OECD (2018[44]). TALIS data makes it possible to know, based on teachers' reports, how much of actual teaching and learning takes place during these lessons. More specifically, TALIS asks teachers to report how much time they spend during a lesson with their target class on three types of activities: actual teaching and learning; administrative tasks (e.g. recording attendance, handing out school information or forms); and keeping order in the classroom (maintaining discipline). On average across the OECD, teachers report spending 78% of classroom time on actual teaching and learning, with the remaining classroom time spent on keeping order (13%) and administrative tasks (8%). Teachers report that they spend at least 85% of classroom time on actual teaching and learning in Estonia, the Russian Federation, Shanghai (China) and Viet Nam, but only 65% to 70% in Brazil, Chile, Saudi Arabia and South Africa (Figure 4.5).

181. On average in South Africa, teachers spend 66% of classroom time on actual teaching and learning (the equivalent of 40 minutes out of a 60-minute lesson), 17% of classroom time on keeping order in the classroom (the equivalent of 10 minutes out of a 60-minute lesson) and 16% on administrative tasks (the equivalent of 10 minutes) (see Figure 4.6).

Figure 4.5: Teacher's use of classroom time in South Africa



182. The time teachers spend on actual teaching and learning during a lesson is positively related to teacher experience and age (Figure 4.6). On average across OECD countries and economies and in almost all countries and economies participating in TALIS, teachers with more than five years of teaching experience spend more time on actual teaching and learning (the equivalent of 3 additional minutes per 60-minute lesson on average across OECD countries and economies) than teachers with five years of teaching experience or less. A significant difference in favour of more experienced teachers is found in almost all countries and economies participating in TALIS, with the exception of Portugal, Saudi Arabia, South Africa and Viet Nam. Similarly, teachers aged 50 or above, often with more than 20 years of teaching experience, spend the equivalent of almost 5 more minutes on actual teaching and learning per 60-minute lesson than teachers aged 30 or below. These differences likely result from the fact that teaching experience but also, potentially, maturity and/or other work experiences lead more senior teachers to adopt efficient classroom routines that reduce the amount of time they need to spend on administrative tasks or on keeping order in the classroom. But these gaps also partly stem from the fact that senior teachers tend to work in less challenging schools, where it is easier to teach – see Chapter 4 and Table BIN.SCH.TCEXP, as well as Chapter 5 of *Effective Teacher Policies* (OECD, 2018[45]).

183. There are also important variations across schools in actual time spent on teaching and learning. On average across the OECD, teachers working in privately managed schools report spending significantly more time on actual teaching and learning than their counterparts in publicly managed schools. Classroom time spent on actual teaching and learning is also significantly lower in schools with high concentrations of students from socio-economically disadvantaged homes, students with special needs and immigrant students (Figure 4.6). These differences in teaching time between schools with low and high concentrations of students are particularly pronounced in Alberta (Canada), Australia, Austria, England (United Kingdom), the Flemish Community (Belgium), France, Saudi Arabia, South Africa and the United States, where they exceed 5 percentage points, the equivalent of 3 minutes of actual teaching and learning per 60-minute hour.

184. To examine the assumption that experienced teachers spend more time on actual teaching and learning partly because they teach easier-to-teach students, regression analyses were conducted. The proportion of class time spent on actual teaching and learning is regressed on teachers' years of teaching experience, controlling for other teachers' characteristics (gender, age, employment status). As expected, a significant positive relationship between teachers' experience and time spent on actual teaching and learning is found in many countries and economies (26 in total) . In a second step, classroom characteristics (class size, concentrations of academically gifted students, low achievers and special-needs students) are introduced in the regression model. Results of this second regression show that the relation between teaching experience and time spent on actual learning and teaching is still significantly positive in 25 countries (as well as on average cross-nationally) but that the strength of the relationship diminishes in almost all countries (the size of the regression coefficient is lower) (Table REG. OLS.TSTCH_WORKEXP_v2). This suggests that part of the positive relationship between teaching experience and time spent on actual teaching and learning is attributable to the characteristics of the students teachers teach in their classroom.

Figure 4.6. Time spent on actual teaching and learning, by teacher and school characteristics

Results based on responses of lower secondary teachers and principals

	Difference by teacher and school characteristics		
	High - low concentration of disadvantaged students[1]	Age 50 and above - under age 30	Experienced - novice teacher[2]
Russia		+	+
Estonia		+	+
Viet Nam	.		
Shanghai (China)		+	+
Lithuania		+	+
Georgia		+	+
Latvia		+	+
Bulgaria	.	+	+
Czech Republic		+	+
Croatia		+	+
Norway		+	+
Sweden		+	+
Denmark	.	+	+
Romania		+	+
Alberta (Canada)	.	+	+
Slovenia		+	+
Hungary	.	+	+
Slovak Republic		+	+
England (United Kingdom)	.	+	+
Finland		+	+
Kazakhstan		+	+
United States	.		+
Japan		+	+
OECD average-31	.	+	+
Italy		+	+
Australia*	.	+	+
New Zealand	.	+	+
CABA (Argentina)		+	+
Austria	.	+	+
Korea		+	+
Mexico		+	+
United Arab Emirates		+	+
Spain		+	+
Colombia		+	+
Malta		+	+
Israel		+	+
France	.	+	+
Iceland		+	+
Flemish Comm. (Belgium)	.	+	+
Singapore		+	+
Portugal			
Turkey	.		+
Belgium	.	+	+
Netherlands		+	+
Chile		+	+
Brazil			+
South Africa	.		
Saudi Arabia	.		

Education systems with a positive difference	0	40	43
Education systems with no difference	19	6	4
Education systems with negative difference	16	0	0

+ Positive difference
. Negative difference
Difference is not significant
Missing values

* For this country, estimates for sub-groups and estimated differences between sub-groups need to be interpreted with great care. See Annex XX for more information.
1. High concentration of disadvantaged students refer to schools with more than 30% of students from socio-economically disadvantaged homes.
2. Experienced teachers are teachers with more than 5 years of teaching experience.
Countries and economies are ranked in descending order of the average proportion of time teachers report on spending on actual learning and teaching.
Source: OECD, TALIS 2018 Database, Table CON.SCH.TC_TIME and Table CON.TCH.TC_TIME.

4.2.4 Teacher self-efficacy

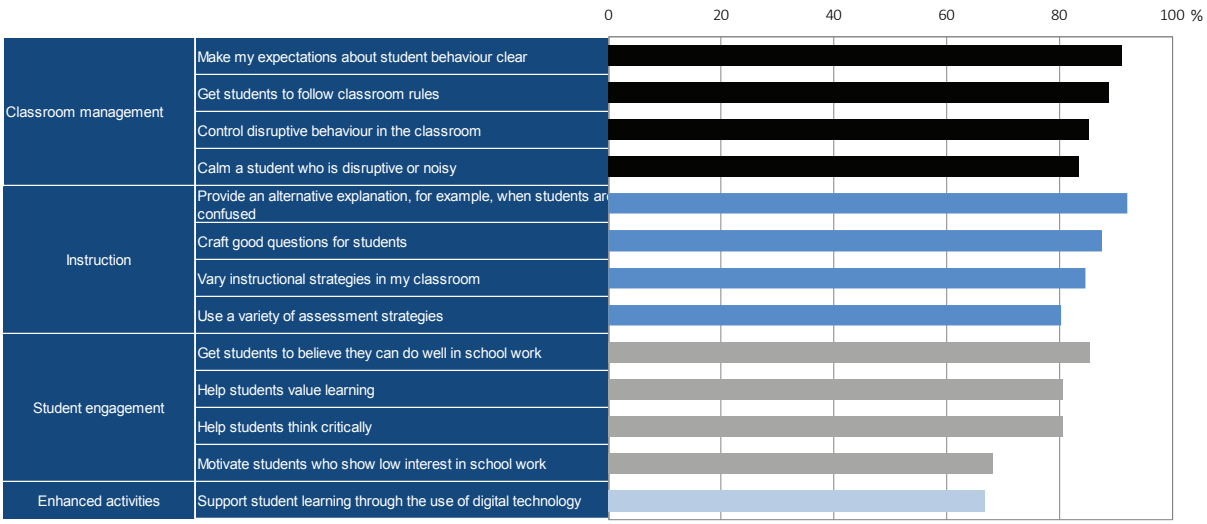
185. Today, the fields of teacher education and educational effectiveness are giving greater credence to the importance of teachers' self-confidence (Klassen et al., 2011[47]; Klassen and Tze, 2014[48]; Tschannen-Moran and Hoy, 2001[49]). Several factors may account for this increased attention. First, teacher self-efficacy is strongly associated with teachers' pedagogical practices and the quality of teachers' instruction (Holzberger, Philipp and Kunter, 2013[50]). Second, these teaching practices correlate, in turn, with student achievement and motivation, both of which are essential educational outcomes (Caprara et al., 2006[51]; Muijs and Reynolds, 2002[52]; Woolfolk Hoy and Davis, 2006[53]). Third, teachers with high self-efficacy show higher job satisfaction and commitment and are less likely to be affected by burnout, indicating the importance of the construct for their well-being (Avanzi et al., 2013[54]; Chesnut and Burley, 2015[55]; Klusmann et al., 2008[22]; Mostafa and Pál, 2018[56]; Skaalvik and Skaalvik, 2010[57]). Therefore, in addition to the factual indicators of teachers' classroom practice presented above (i.e. frequency of use of certain practices and time spent on various activities), TALIS also collects more subjective measures of teachers' perception of the quality of their own teaching.

186. In line with the assumption that teaching practices consist of several aspects, TALIS also considers teacher self-efficacy as multidimensional. TALIS inquires about the extent to which teachers can do a series of goal-oriented actions, asking them to mark one choice among four options: "not at all"; "to some extent"; "quite a bit"; "a lot". More specifically, TALIS distinguishes three core aspects of teacher self-efficacy: classroom management; instruction; and student engagement.

187. Teacher self-efficacy in classroom management refers to teachers' beliefs about their ability to establish an orderly learning environment and, therefore, effectively manage disruptive student behaviour (Brouwers and Tomic, 2000[58]).On average across the OECD, 83% to 91% of teachers report high levels of self-efficacy in classroom management: successfully calming a student who is disruptive (83%); controlling disruptive behaviour in the classroom (85%); getting students to follow classroom rules (89%); and making their expectations about student behaviour clear (91%) (Figure 4.7). However, in some countries and economies participating in TALIS, teachers report lower levels of efficacy in 2018 than in 2013 in at least two of the four different classroom-management practices. These are Australia, Chile, the Flemish Community of Belgium, Finland, France, New Zealand, Norway, Romania, the Slovak Republic and Sweden. This trend, observed in some of the countries and economies participating in TALIS, is to be compared with the upward trend observed in the time spent on managing the classroom and, concomitantly, the downward trend in the time spent on actual teaching and learning in these countries. Teachers globally spend more time on classroom management, but they also feel less capable of doing this efficiently. There are indeed small but negative system-level correlations between the change in classroom management time and the change in self-efficacy in teaching (the linear correlation coefficient ranges from -0.10 to -0.23, depending on the aspect of self-efficacy in classroom management examined). In contrast, some other countries and economies show a positive change in the reported self-efficacy of teachers in classroom management between 2013 and 2018. These include the Czech Republic, Estonia, Georgia, Japan, Korea, Mexico, the Netherlands, Portugal and Singapore. For four of these countries – Estonia, Georgia, Korea and Portugal – this may be a consequence of demographic changes in the teacher workforce, as these countries have seen an ageing of their teacher population since 2013 (see Chapter 2 for more information) and experienced teachers tend to feel more confident in their classroom management skills.

Figure 4.7: Teachers' self-efficacy

Percentage of lower secondary teachers who feel they can do the following "quite a bit" or "a lot" (OECD average-31)



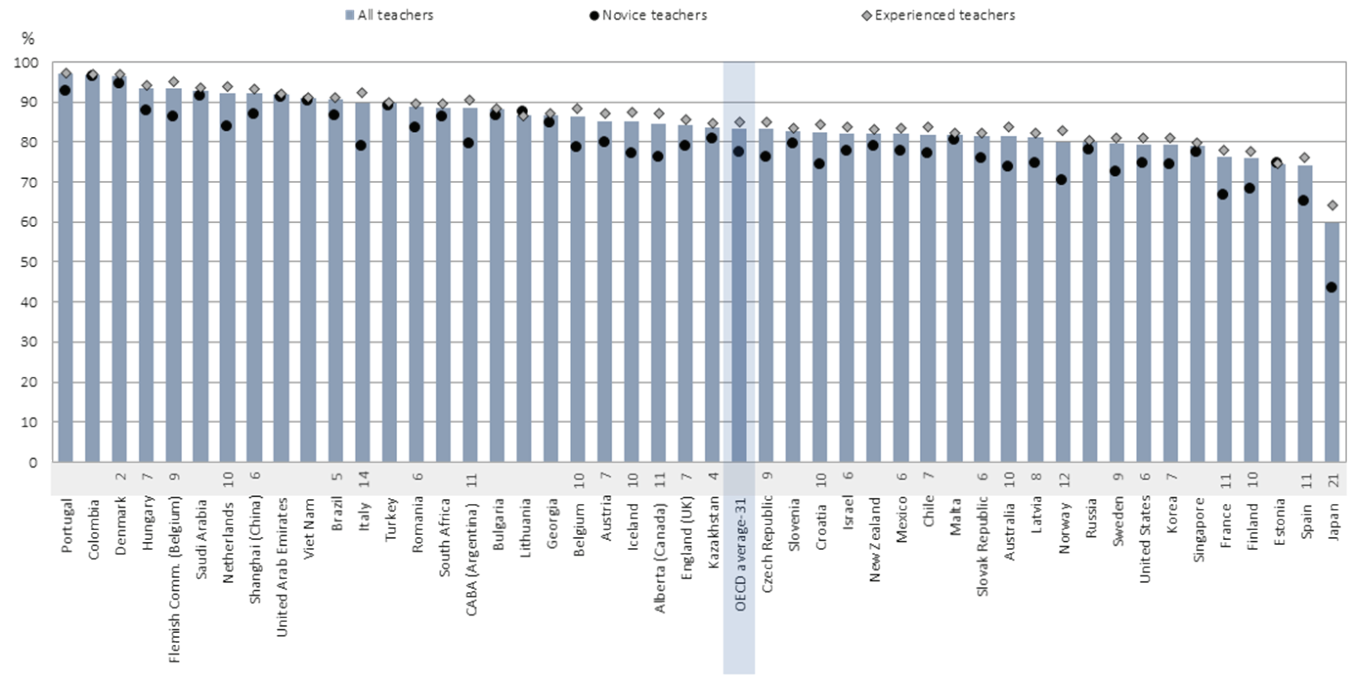
Values are ranked in descending order of teachers' self-efficacy.
Source: OECD, TALIS 2018 Database, Table BMUL.TCEXP.SELFEFF.

188. Teacher self-efficacy in instruction refers to teachers' beliefs about whether they can feel confident in using a wide range of teaching practices, assessment strategies, and explanations (OECD, 2014, pp. 182-185[59]). On average across the OECD, around 90% of teachers report that they feel able to provide an alternative explanation (e.g. when students are confused) and that they can craft good questions for their students. Fewer teachers (85%) feel that they can use a variety of instructional practices in their classroom, and even fewer (80%) feel that they can use a variety of assessment strategies. It seems that teachers have gained in clarity of instruction, as there is an increase between 2013 and 2018 in the percentage of teachers who feel they can provide an alternative explanation in the event of confusion among students, in about a third of the countries and economies with comparable data. But a worrying decline is also seen in France[5] and the Slovak Republic (-10 percentage points).

189. Teacher self-efficacy in student engagement addresses teachers' beliefs about the emotional and cognitive support they can give their students and about their ability to motivate student learning (OECD, 2014, pp. 182-185[59]). Among the three core factors of self-efficacy, teachers feel least confident in motivating student learning. On average across the OECD, only 68% of teachers report that they can motivate students who show low interest in school work, suggesting that teachers particularly struggle when they want to turn around a given situation. However, 81% of teachers feel that they can help students think critically and help students to value learning, and 86% feel that they can get students to believe they can do well in their school work (Table BMUL.TCEXP.SELFEFF).

190. On average, teachers report high levels of self-efficacy in the different domains of teaching, but novice teachers (those with five years of experience or less) are less likely to feel confident in their teaching skills than their more experienced colleagues. The practices for which the differences in self-efficacy between experienced and novice teachers are most pronounced pertain to classroom management and the use of a variety of practices.[6] On average across the OECD, 78% of novice teachers feel that they can control disruptive behaviour in their classroom, while 87% of experienced teachers report that they can do so. The largest differences (15 or more percentage points) between novice and more experienced teachers in this self-reported capacity are found in the Czech Republic, , France, Japan, Norway and Spain (Figure 4.8). More experienced teachers also feel more confident in their ability to vary their assessment strategies. This holds true for the majority of countries and economies participating in TALIS, and in particular in Austria, Japan, Korea, the Netherlands and Viet Nam, where the difference between experienced and novice teachers is greater than 10 percentage points. In accordance with previous research, this supports the finding that experience more specifically helps teachers to develop skills and routines to manage their classroom better and to try out various strategies of teaching and assessing students (Chetty, Friedman and Rockoff, 2014[60]; Kane, Rockoff and Staiger, 2008[61]).

Figure 4.8: Control of disruptive behaviour in the classroom, by teachers' teaching experience



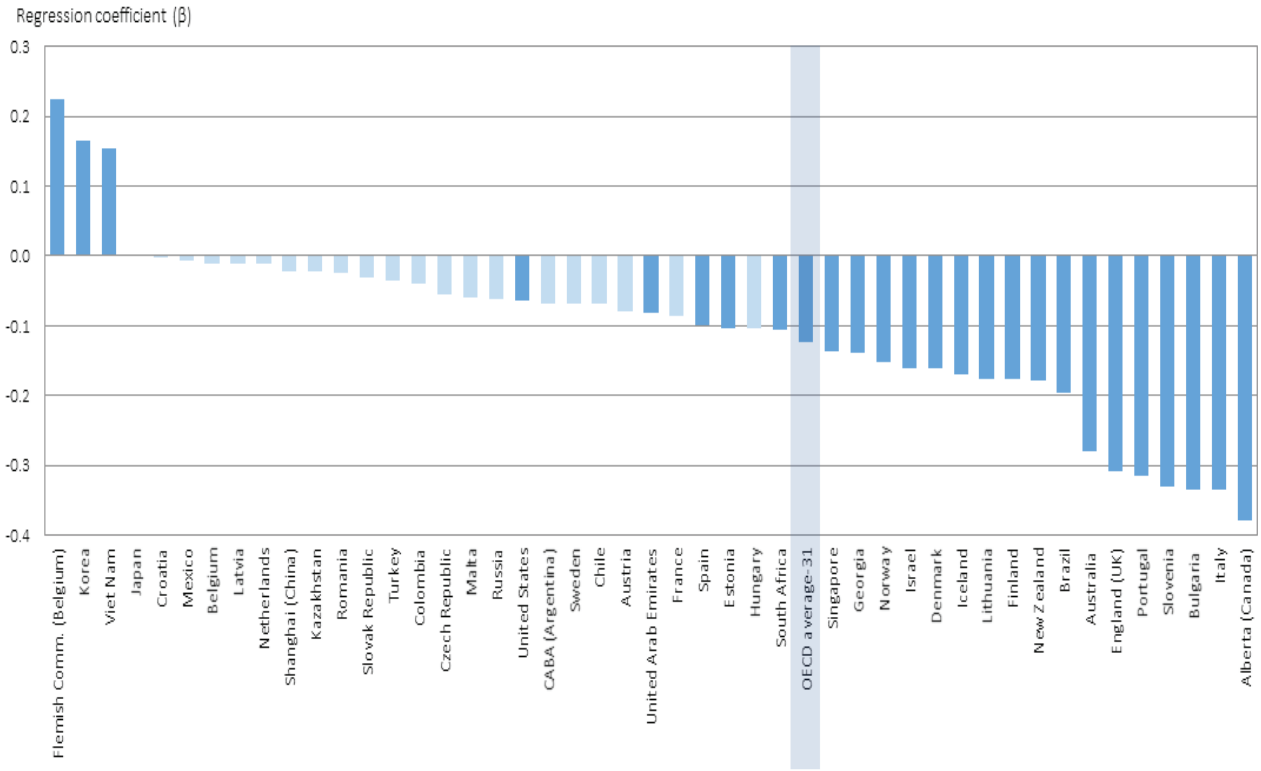
191. The one aspect of teaching in which novice teachers globally feel slightly more confident than their more experienced peers is supporting student learning using digital technology. This is likely related to a stronger command of ICT among novice teachers. Differences to the advantage of novice teachers are particularly marked in the Czech Republic, Israel, Japan, the Netherlands, New Zealand and Norway (greater than 5 percentage points). The opposite pattern, with experienced teachers reporting higher levels of self-efficacy than novice teachers, is found in England (United Kingdom), Shanghai (China), Turkey, the United States and Viet Nam.

4.2.5 Relationship between teaching, classroom and teacher characteristics

192. Teachers tend to adapt their teaching to the students they teach (Le Donné, Fraser and Bousquet, 2016[23]). TALIS data make it possible to investigate how teachers modify their strategies depending on the characteristics of the class they teach. This section now seeks to analyse which classroom factors can enable the implementation of effective teaching processes by teachers in their classroom. This is a crucial policy endeavour, since it can guide the investment into those areas that are more likely to affect teaching practices. To this end, three indicators of quality teaching processes – the frequency with which teachers report using cognitive activation practices, the total class time teachers report spending on actual teaching and learning and teachers' reported level of self-efficacy – are analysed in relation to classroom size and composition, through the means of linear regressions.

193. Analyses show that, on average across OECD countries and economies, when teachers teach larger classes, they tend to spend less classroom time on actual teaching and learning (Figure 4.9). This also holds true for about half of the countries and economies participating in TALIS, with the strongest negative relationships found in Alberta (Canada), Bulgaria, Italy and Slovenia. All other classroom and teacher characteristics being equal, teachers teaching larger classes may need to spend more time on recording attendance or handing out school forms (as a simple result of a higher number of attendees) but also on keeping order in the classroom. Yet, the negative relationship that is found in many countries between class size and actual teaching and learning time does not hold for other indicators of teaching processes and quality, such as for the use of cognitive activation practices and teachers' reported self-efficacy in teaching.

Figure 4.9: Relationship between class time spent on actual teaching and learning and class size



194. Teachers' teaching practices also differ depending on the composition of the classroom they teach. In most countries and economies, when the share of gifted students in a classroom is larger and/or the proportion of low achievers is smaller, all three quality indicators of teaching processes examined (the use of cognitive activation practices; self-efficacy; and the time spent on actual teaching) tend to be more prevalent. In other words, when teachers view their students as "easy-to-teach", they also report spending more class time on actual teaching and learning, using cognitive activation practices more frequently and being more confident in their ability to teach.

195. Teachers working in a class with a higher share of special needs students tend to spend less time on actual teaching but do not feel less confident in their teaching nor do they use cognitive activation practices less frequently. This suggests that catering for students with special needs requires teachers to spend more time setting up the classroom for actual learning to happen, but it may also encourage teachers to use a wider range of activities and practices to stimulate every student's learning.

196. Actually, the regression analyses presented above also shed light on the fact that the three examined indicators – time spent on actual teaching and learning, use of cognitive activation practices and self-efficacy – provide complementary information on the teaching and learning process that takes place in the classrooms. Analyses show that these measures are not related by a simple relationship but by a complex one. Yet, other investigations regarding indicators of teachers' approaches to classroom management, particularly the indicators of time spent on keeping order in the classroom and self-efficacy in this domain, are connected in a more simple manner. Indeed, in most countries and economies that participate in TALIS, there is a significant inverse relationship between self-efficacy in classroom management and class time spent on keeping order. In other words, the more teachers believe in their classroom management capabilities, the less class time they spend on keeping order.

197. Teachers also tend to teach differently depending on their personal characteristics and experience. Past teaching experience is actually the teacher characteristic that matters most when it comes to teaching strategies. After controlling for classroom composition, more experienced teachers tend to report higher self-efficacy and more time spent on teaching in most countries and economies participating in TALIS. Except in Japan, female teachers also tend to report higher overall self-efficacy than male teachers. Moreover, in around half of the countries and economies participating in TALIS, being a full-time teacher is associated with higher self-efficacy compared to working those teaching part-time.

4.3 What teachers and school leaders do outside the classroom to get ready for teaching

198. Given the amount of time available, the work of teachers and school leaders is composed of a multitude of often competing tasks. The way they use their working time is crucial for the quality of the teaching delivered in their classroom and school and for student learning. Indeed, teachers and school leaders always have to set priorities to balance their most important goals with the resources available to achieve them. The quality of teachers' teaching in their classroom is likely to depend on the quality of the planning and preparation of their lessons (Hargreaves, 1992[62]). Similarly, the quality of teachers' teaching hinges on the measures taken by school leaders to support teaching and learning in their school (OECD, 2016[63]; Orphanos and Orr, 2014[64]). Although indicators of such aspects of quality are relatively complex to build, it is possible to examine how much time teachers and school principals devote to these activities.

4.3.1 Planning, preparing and marking

199. TALIS asks teachers how many 60-minute hours they spend working in total and on various tasks during the most recent complete calendar week prior to the survey (including tasks that took place during weekends, evenings or other out of class hours. On average across the OECD, teachers (including full-time and part-time teachers) spend 38.8 hours per week on all the tasks related to their job in their surveyed school, of which 20.6 hours are devoted to teaching. In other words, teachers spend slightly more than half (53%) of their working time teaching classes and this share is very similar for teachers working full-time and for those working part-time hours.[8] But the share of teaching hours varies greatly across countries. The lowest shares (between 31% and 40% of total teacher working hours) are mainly observed in Eastern countries (Japan, Kazakhstan, Singapore and Viet Nam), but also in Norway, while the highest shares (between 72% and 78%) are found in Brazil, Chile,[9] Georgia, Saudi Arabia, South Africa and Turkey. These differences result from the way teachers' hours are regulated, which varies among countries as well as from the country-specific school culture among other factors – see Indicator D4 in *Education at a Glance* (OECD, 2018[65]). In Japan, while teachers spend a low share of their working time on teaching (32%), they also engage highly in extracurricular activities (13% of their working time, compared to 4% on average in the OECD), which actually involves teaching extra lessons in "school clubs" for the teachers.

200. The next two most time-consuming activities in teachers' work are planning and lesson preparation (either at school or out of school) and marking and correcting student work. On average across the OECD, teachers spend 6.5 hours a week on planning and lesson preparation (the equivalent of 17% of their total working time) and 4.2 hours a week on marking and correcting (the equivalent of 11% of their total working time). The way teachers distribute their time across these two tasks also varies substantially across countries. For example, teachers in Ciudad Autónoma de Buenos Aires (hereafter CABA) (Argentina), Finland, Japan, the Netherlands, New Zealand, Sweden and Turkey dedicate the equivalent of 11% to 15% of their total time to preparing for classes, while teachers in Austria, Brazil, Bulgaria, Colombia, Croatia, Georgia, Malta, the Russian Federation, Slovenia and Viet Nam spend the equivalent of 20% to 23% of their total working time on preparation.

201. This global reduction is worrisome, as past research has emphasised the importance of teacher preparation time for the quality of teaching and student learning. A study based on teacher interviews, conducted in Ontario (Canada), found that increases in preparation time had conferred important benefits on the quality of teachers' work in general and their instruction in particular (Hargreaves, 1992[66]). Preparation time can be seen as a way of providing teachers with working conditions designed to help them catch up with the diverse and changing requirements of their jobs. Preparation time is a promising lever to help teachers cope more effectively with these changes.

202. Some factors could make this downward tendency in preparation time less worrisome, for example, if teacher preparation has become more effective through the use of technology. More and more courses are prepared on computers and can more easily be updated, and there are more and more opportunities for sharing course materials and artefacts with other teachers through the Internet and social media. The declining trend may be less of a concern if the teacher population is ageing, as preparation time is typically longer for novice teachers than for more experienced teachers, or if more teachers are required to teach the same lesson several times to different classes. With regard to the role of the first factor, the seniorisation of the teacher population, Croatia and Korea are the two countries that experience both one of the sharpest declines in lesson planning time and an increase in the share of teachers with more than 20 years of experience. The role of the second factor – class duplication – is difficult to assess using TALIS data. Changes in class size and in student-teacher ratio could provide an indication of class reduction and potentially of class duplication for teachers, assuming that the size of the teacher workforce has remained stable. Among the countries that experienced the sharpest decline in teachers' preparation time, Croatia, Korea and Singapore also experienced a decline in both class size and student-teacher ratio, which could mitigate the detrimental aftermath of reduced preparation time on student learning.

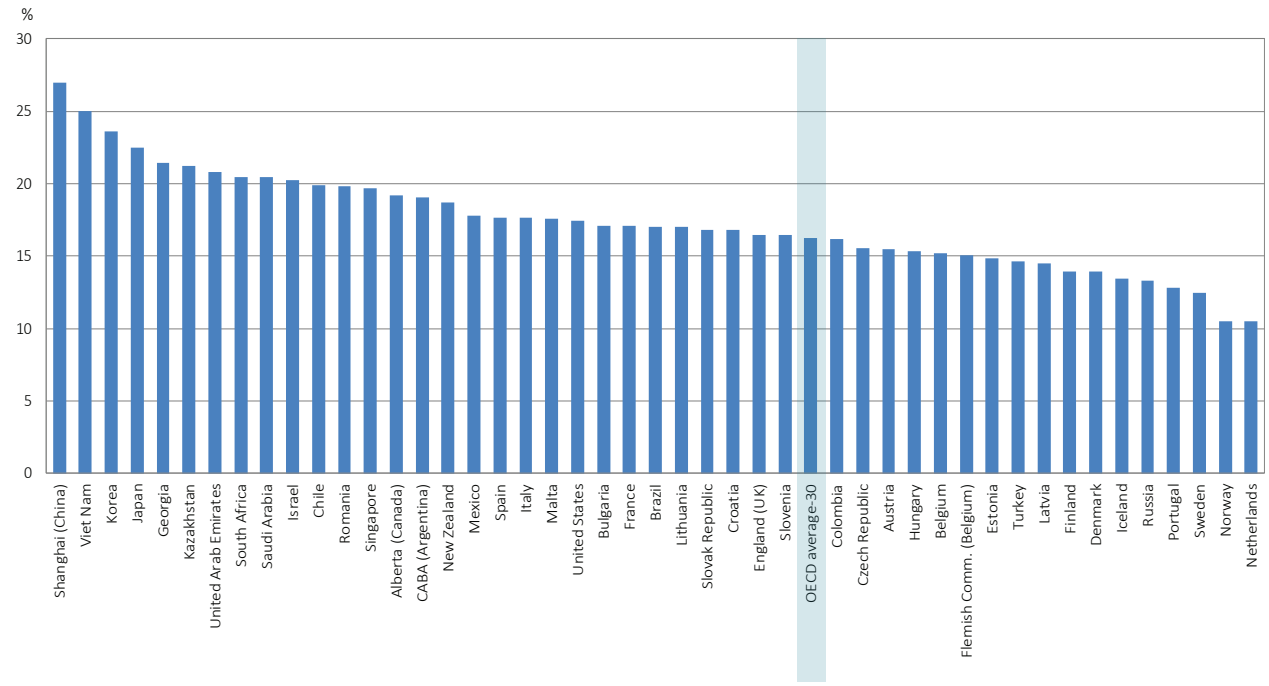
4.3.2 Time spent by principals on curriculum and teaching-related tasks

203. How do principals support their teachers in the core substance of their teaching tasks? TALIS asks school principals about the proportion of time they spend on various activities throughout the school year in their role as principal. Among the seven activities listed in the principal questionnaire, one is closely related to supporting teaching in their school: "curriculum and teaching-related tasks and meetings" (Figure 4.10). This activity typically encompasses developing a school curriculum, teaching, observing their teachers' classes, mentoring teachers, designing and organising professional development activities for teachers or being involved in student evaluation. It has been identified as a key component of instructional leadership of school principals (OECD, 2016[63]). On average across the OECD, principals report spending 16% of their working time on this type of activity. This makes it the third most time-consuming task of principals, after administrative tasks and meetings[10] (30% of principals' working time) and leadership tasks and meetings[11] (21%).

204. In 2018, there are also substantial cross-country differences in the way school leaders use their time. School leaders spend a higher share of their time on curriculum and teaching-related tasks (more than 20% of their total working time) in Eastern countries (Georgia, Israel, Japan, Kazakhstan, Korea, Saudi Arabia, Shanghai [China], the United Arab Emirates and Viet Nam) and in South Africa and a lower share (less than 15%) in Europe (Denmark, Estonia, Finland, Iceland, Latvia, the Netherlands, Norway, Portugal, the Russian Federation, Sweden and Turkey). These differences are partly related to the way principals' responsibilities are defined and regulated, which varies among countries.

Figure 4.10: Time spent by principals on curriculum and teaching

Average proportion of time lower secondary principals report spending on curriculum and teaching-related tasks and meetings [1]



1. Including developing curriculum, teaching, classroom observations, student evaluation, mentoring teachers, teacher professional development.

Countries and economies are ranked in descending order of the average proportion of time lower secondary principals report spending on curriculum and teaching-related tasks and meetings in 2018.

Source: OECD, TALIS 2018 Database, Table CMUL.NO.WORK_HOURS_P.

4.4 To what extent can teachers and schools innovate?

205. Rapidly changing societies, economies, and technologies have led to frequent calls for innovation in education. Meetings of the International Summit on the Teaching Profession held in the past few years stress the importance of encouraging innovation to create 21st century learning environments and conditions for the success of education systems. The 2014 OECD report *Measuring Innovation in Education: A New Perspective* states that educational innovation can add value in four main areas: 1) improving learning outcomes and the quality of education; 2) enhancing equity in access to and use of education, as well as equality; 3) improving efficiency, minimising costs and maximising the "bang for the buck"; and 4) introducing the changes necessary to adapt to rapid changes in society (OECD, 2014, p. 21[67]).

206. However, it is not entirely clear how to define innovation. An OECD TALIS report, published in 2012, defined innovation as "a new idea or a further development of an existing product, process or method that is applied in a specific context with the intention to create a value added" (Vieluf et al., 2012, p. 39[32]). The report pointed out that incremental adaptations of existing characteristics are a feature more commonly seen in relation to innovation than to radical change. A more recent OECD report defines innovation in teaching as "a problem-solving process rooted in teachers' professionalism, a normal response to addressing the daily changes of constantly changing classrooms" (Paniagua and Istance, 2018, p. 13[68]).

207. The literature on innovation in education discusses several perspectives on this matter. The first perspective concerns innovative teaching practices that support students' acquisition of cross-curricular skills (OECD, 2014[67]). In addition to acquiring well-established literacies, such as reading and mathematics, students today need broader and more complex skills to have a fair chance of succeeding in complex modern societies and rapidly changing global labour markets. These skills encompass or refer to ways of thinking and working, mastering tools for working, and aspects of living in the 21st century (Binkley et al., 2012[69]; Bohle Carbonell et al., 2014[70]). Creativity and innovation, problem-solving, critical thinking and digital literacy are the skills mentioned most often in this context, but there are others (OECD, 2015[71]).

208. A second perspective of interest with regard to innovation concerns the general uptake of innovative practices by teachers, as core actors in educational processes. Innovative practices typically encompass blended learning, gamification, computational thinking, experiential learning or embodied learning[12] (Paniagua and Istance, 2018[68]). On average across the OECD, 79% of teachers agree or strongly agree with the statement that "most teachers in [their] school strive to develop new ideas for teaching and learning", showing a general orientation of teachers towards innovative teaching. Fewer teachers agree with this in many European countries (particularly in Belgium, the Czech Republic, the Netherlands and Portugal) than in other regions of the globe. As discussed by Paniagua and Istance (2018[68]), there is a mismatch between how innovation is understood and theorised and how it occurs in practice: "… the innovation landscape today is populated by hundreds of very local experiences, and different frameworks and recommendations that conflate new learning goals, content, skills, organisation factors and different variables of pedagogical knowledge" – Paniagua and Istance (2018, p. 24[72]). On average across the OECD, 74% of teachers agree or strongly agree that most teachers in their school are open to change (Figure 2.11), and 77% of teachers agree or strongly agree that most teachers in their school. Openness to innovation seems to be lower in many European countries than in other parts of the world (Figure 4.11). It may be the case that teachers in the European countries showing the lowest levels of innovation – such as Belgium and Portugal – rely more heavily on the curriculum. However, this cannot be the explanation for all European countries – especially Scandinavian countries, which allow teachers much autonomy in their teaching. It is unlikely that the cross-country differences for these indicators result more from cultural differences in the understanding of the concept than for other questions, as the TALIS measures on innovation proved to be the most comparable ones across countries (for more details, see *TALIS 2018 Technical Report*).

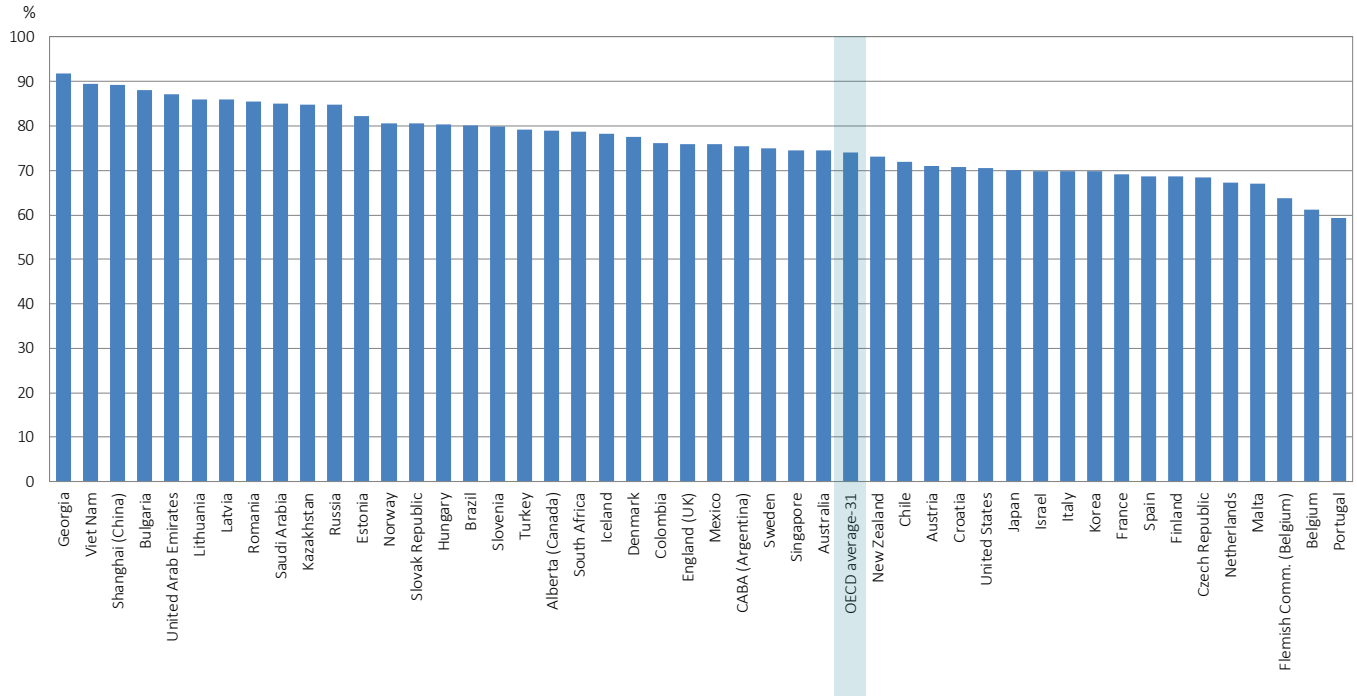
209. Teachers' opinions about their peers' openness to change also vary depending on their own characteristics. On average across the OECD, teachers age 50 or above are more likely to report that their colleagues are open to change than teachers under age 30 (a difference of 14 percentage points). This also holds true for 36 countries and economies. There is no country where the opposite pattern occurs, with younger teachers reporting higher levels of openness among their colleagues than older teachers. Except for Portugal, results are similar when comparing novice teachers with more experienced teachers. This is not surprising, as age groups and experience groups partly overlap. One plausible explanation is that this is related to the generation gap, with younger teachers more likely to be open to change. As teaching is, by definition, new to them, they can only suggest new ways of doing things. This may result in older teachers reporting higher levels of openness to innovation among their peers (who are most likely younger[13]) and younger teachers reporting lower levels of openness to innovation among their peers (who are most likely older[15]). Indeed, past research found that teachers' willingness to implement innovative practices or reforms tends to decline with age and experience (Goodson, Moore and Hargreaves, 2006[73]). However, older teachers may just rely on their experience and well-proven teaching methods and may therefore be more reluctant to change their approaches. There is an exception to this pattern – Portugal – where novice teachers are more likely to report that most teachers in their school are open to change. Box 2.6 sheds light on Portugal's pilot programme on fostering innovation in schools and among teachers to build 21st century competencies among its students).

210. The third literature-based perspective on innovation concerns school contexts that are open to innovation. On average across the OECD, 78% of teachers report that "most teachers in [their] school provide practical support to each other for the application of new ideas." This reinforces the idea that innovation also has an organisational component that reflects shared perceptions of a group's innovativeness by the teachers of the school (Anderson and West, 1998[74]). This organisational component seems to be more pronounced in Georgia, Kazakhstan, Shanghai (China) and Viet Nam (where more than 90% of teachers so reported) and less prominent in Belgium and Portugal (where less than 70% of teachers so reported) .

211. School principals also report high levels of innovation-friendliness in their schools. On average across the OECD, 85% to 89% of school principals agree or strongly agree with the following statements about their school: “makes assistance readily available for the development of new ideas” (89%); “quickly identifies the need to do things differently” (89%); “quickly responds to changes when needed” (88%); and “readily accepts new ideas” (85%). In addition to an innovation-friendly school climate, certain system characteristics are important preconditions for innovation, because their presence makes it easier for schools to adapt to rapid developments. One such characteristic is documented in several OECD reports (Kools and Stoll, 2016[75]; Vieluf et al., 2012[32]), which pointed out the value that professional learning communities offer by constantly providing feedback to teachers, thus supporting incremental change and positively affecting instructional quality and student achievement (Bolam et al., 2005[76]; Louis and Marks, 1998[77]). Professional learning communities will be discussed in detail in Volume II of this report (forthcoming).

Figure 4.11:Teachers’ views on their colleagues’ attitudes towards innovation

Percentage of lower secondary teachers who "agree" or "strongly agree" that most teachers in the school are open to change (OECD average-31)



Values are ranked in descending order of lower secondary teachers' views on their colleagues' openness to change.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.INNOV.

Notes

1. The class that lower secondary teachers base their responses on is the first lower secondary education class they taught in the surveyed school after 11 a.m. on the Tuesday prior to the day they participated in the survey.

2. Another TALIS-related project, the TALIS Video Study, also aims to capture what teaching looks like, through video observation in several countries. It will usefully complement teachers' self-reports on their classroom practices and self-efficacy collected by TALIS.

3. The OECD average corresponds to the arithmetic mean of the estimates of the OECD countries and economies that participate in TALIS, with adjudicated data.

4. TALIS data could be explored further to address this question in future research.

5. The response options for this question were not exactly the same in the French version of the teacher questionnaires of 2013 and 2018. However, additional analysis conducted on French data for 2013 and 2018 confirms a decline in the share of teachers who feel that they are able to provide alternative explanations when students are confused.

6. TALIS 2018 data also show that novice teachers report higher needs in professional development on student behaviour and classroom management (see Chapter 5 and Table BMUL.TCEXP.PD_CONTENT).

7. On average across the OECD, full-time teachers work a total of 40.8 hours and teach 21.6 hours a week, while part-time teachers (i.e. teachers working up to 90% of full-time hours, all teaching employments together) work a total of 31.9 hours and teach 17.2 hours a week (OECD TALIS 2018 database).

8. The sum of hours spent on different tasks may not be equal to the number of total working hours, because teachers were asked about these elements separately. Therefore, the share of total working time teachers spend on each of the reported activities should be interpreted with great care. These percentages have been included in the text to ease the reading of the results. It is also important to note that the data represent the averages from all the teachers surveyed, including part-time teachers. Yet, on average across the OECD, the share of total work hours spent on teaching for full-time (53%) and part-time teachers (54%) is very similar (OECD TALIS 2018 database).

9. Results for Chile should be interpreted with care, as a lesson typically lasts 45 rather than 60 minutes.

10. This task includes regulations, reports, school budget, preparing timetables and class composition, and responding to requests from district, regional, state or national education officials.

11. This task includes strategic planning, leadership and management activities (such as developing school improvement plans) and human resource and personnel issues (such as hiring staff). It can also be considered a teacher-centred task.

12. Blended learning seeks to use the potential of new technology to offer more individualised teaching and direct instruction. Gamification includes the pedagogical core of gaming and the benefits of playful environments for student engagement and well-being. Computational thinking intersects mathematics, ICTs and digital literacy. It aims to address mathematics as a language for coding and looks at ICTs as a platform for developing problem-solving reasoning in students. Experiential learning refers to approaches where learners are brought directly in contact with the realities being studied. Embodied learning refers to pedagogical approaches that focus on the non-mental factors involved in learning and that signal the importance of the body and feelings (Paniagua and Istance, 2018[68]).

13. Years of experience of teachers working in the same school vary greatly. On average across the OECD and across all countries and economies participating in TALIS, the between-school variation in teacher experience represents only 8% of the total variation in teacher experience.

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Chapter 5:
The Changing Landscape of Teaching

This chapter describes the age, experience and gender distribution profiles of lower secondary teachers and school principals in countries and economies participating in TALIS and examines how their demographic characteristics and experience have evolved since 2008. It explores how teachers deal with societal changes that have created new contexts for teaching, with increasingly diverse classrooms and schools. It also explores the practices implemented in schools to respond to student diversity, as well as teachers' preparedness and confidence to teach in these more diverse environments. The chapter then then turns to school and classroom climate as an important lever within the school for students' learning and well-being, as well as for teachers' confidence and commitment to teaching. Finally, it sets the scene for the remainder of the report, by identifying school resources issues that particularly require action, according to teachers and school leaders.

Highlights

- Across OECD countries and economies participating in TALIS, principals are generally older than teachers, with the average age for a principal being 52, compared to 44 for teachers. However, the teacher workforce has also aged in a number of countries over the past five to ten years.
- Women account for 68% of the teacher workforce, while only 47% of principals are women, on average across OECD countries and economies participating in TALIS.
- On average across OECD countries and economies participating in TALIS, 17% to 31% of teachers work in schools with diverse student composition in terms of socio-economic, cultural, linguistic background or educational needs, as reported by school leaders. Since it is unlikely that the same schools concentrate all forms of diversity at the same time, the proportion of teachers actually working with diverse students is likely much higher. These averages, however, conceal significant cross-country variations.
- According to school leaders, about 75% of schools implement equity-related policies to address gender and socio-economic discrimination, on average across the countries and economies that participate in TALIS.
- According to school leaders, the most common policies and practices related to diversity are those embedded in the teaching process: 80% of teachers working in multicultural schools work in a school that has integrated global issues throughout the curriculum and teaches students how to deal with ethnic and cultural discrimination. Policies and practices promoting diverse cultures are less common: only 61% of teachers working in multicultural schools work in a school that supports activities or organisations encouraging students' expression of diverse ethnic and cultural identities.
- According to school leaders, schools in OECD countries and economies participating in TALIS remain immune from daily and weekly safety-related incidents for the most part. But 14% of school principals still report regular acts of intimidation or bullying among their students
- Relations between teachers and their students are extremely positive. On average across OECD countries and economies participating in TALIS, 95% of teachers concur that teachers and students usually get on well with one another – up from 2008 for most countries with available data. Change in student-teacher relations over time also reveals that teachers' belief in the importance of student well-being has progressed in the vast majority of countries since 2008.
- The most common resource issues reported by school leaders in participating countries and economies are shortages of: 1) support personnel; 2) teachers with competence in teaching students with special needs; and 3) time for instructional leadership (each reported by about one-third of principals).
- The most common priorities for policy intervention reported by teachers in participating countries and economies are: 1) reducing class sizes (reported by 65% of teachers); 2) improving teacher salaries (64%); 3) offering high-quality professional development for teachers (55%) and 4) reducing teachers' administration load (55%).

5.1 Introduction

212. Since the first cycle of TALIS in 2008, the world has experienced substantial changes: emergence of a global middle class, greater digitalisation, rapid dissemination of innovation, the 2008 financial crisis and its ongoing impacts, growing pressures on public budgets, challenges to social cohesion and democratic values and a large influx of refugees in recent years. All these trends have an impact on countries and societies, as well as on students, teachers and school leaders in their education systems (OECD, 2016[1]; OECD, 2019[2]).

213. In addition to their impact on the characteristics and profiles of learners and the learning environments and climate in schools and classrooms, these issues challenge the way education has been conceived and the nature of teaching in the 21st century, engendering a sense of urgency to adapt to new realities as the pace of change is accelerating.

214. It is now widely accepted that students today need to develop broader knowledge, skills and attitudes than previous generations to be successful in their careers and personal lives (Kuhn and Weinberger, 2005[3]; OECD, 2018[4]; UNESCO, 2016[5]). This is prompting many education systems to review their curriculum and the way it is taught, to prepare students to confront the future with confidence as responsible citizens (Barber and Mourshed, 2009[6]; Reimers and Chung, 2016[7]; UNESCO, 2016[8]). The work of teachers is thus more complex than ever, raising the question of how well teachers are prepared for these new contexts and new demands. This chapter describes the current landscape of teaching and the extent and complexity of change since the two previous TALIS surveys in 2008 and 2013.

215. The strong influence of teachers on instructional quality and student achievement is widely accepted (Hattie, 2009[9]; Kyriakides, Christoforou and Charalambous, 2013[10]), as is the acknowledgement of school leadership as a lever for school-level improvement (Hallinger and Heck, 2010[11]; Horng and Loeb, 2010[12]; Scheerens and Bosker, 1997[13]).

216. Recognising that teachers are central to the teaching process and school leadership is critical to enhancing education quality, this chapter begins by describing the profiles of lower secondary teachers and school principals in countries and economies participating in TALIS, in terms of age, experience and gender distribution and how their demographic characteristics and experience have evolved since 2008. It then explores how teachers deal with societal changes that have created new contexts for their teaching, with increasingly diverse classrooms and schools in terms of students' backgrounds and ability levels. It also examines the practices implemented in schools to respond to student diversity, as well as teachers' preparedness and confidence to teach in these more diverse environments. Attention then turns to school and classroom climate, as important context and a school-level lever for both students' learning and social well-being and teachers' confidence and commitment to teaching. The chapter concludes by identifying school resources issues and areas that particularly require intervention and improvement, according to teachers and school leaders. This sets the scene for the remainder of this volume and for Volume II, *Teachers and School Leaders: Valued Professionals* (to be published in 2020).

5.2 Changing demographics of the profession

217. Only some education systems have staffing surveys or census information providing a detailed profile of their teachers and principals. When this is not the case, the TALIS survey offers a useful alternative, as well as an international comparative perspective on the characteristics of teachers and school leaders across participating countries and economies. This makes it possible to capture their demographic profiles in terms of age and gender and also, through analysis of their work experience (overall and at their current school), to provide indications on career paths of teachers and principals, as well as the degree of staff stability and mobility in the system. Patterns of experience also have implications for policy makers, with respect to the nature of training and support mechanisms needed to support the profession, through induction and mentoring schemes for inexperienced teachers and principals (see Chapter 6) and professional development for more experienced teachers and school leaders (see Chapter 7). Changes over time in these indicators also provide valuable information on the dynamics of human resources in school education.

5.2.1 Age and experience profile of teachers and school leaders

218. Information from TALIS about the age and experience distribution of the teacher workforce is valuable to policy makers because, in combination with projections on student numbers, it helps them to assess the renewal of the profession needed to compensate for retirement attrition in education systems with ageing populations (OECD, 2009[14]; OECD, 2018[15]). Information on the age and experience distribution of teachers also helps policy makers to assess needs for training and support mechanisms to best support the profession. Having a diverse age distribution among teachers can also expose students to different role models at different stages of the lifespan.

219. Likewise, the demographic and experience profiles of principals help policy makers to forecast and manage human resources for principals in the system and to support them in schools. Indeed, school principals are increasingly viewed as critical in fostering quality teaching, through their influence – direct or indirect – on school organisation and climate and on teachers and teaching (OECD, 2016[16]; Orphanos and Orr, 2014[17]). School leadership has become a priority for many countries concerned about improving student achievement (Pont, Nusche and Moorman, 2008[18]) and improving schools that are underperforming or failing (Branch, Hanuschek and Rivkin, 2013[19]). School leaders are at the intersection between teachers, students, parents/guardians, the educational system and the wider community in which the school exists. There is mounting evidence that the role of school leaders has become increasingly challenging, with increased workloads and accountability duties (OECD, 2016[20]; OECD, 2014[21]). It is even more so for new principals, who find it particularly challenging to collaborate with and gain the credibility of different stakeholders (Beam, Claxton and Smith, 2016[22]). The challenges that school leaders face also depend on the social, economic and physical context of the schools they lead (Pont, Nusche and Moorman, 2008[23]). Previous evidence from TALIS shows that principals' actions as instructional leaders are limited but are positively associated with training received in instructional leadership (OECD, 2014[24]). This brings to the fore the question of how much experience they bring to the job and how to best support them to meet the many demands they face.

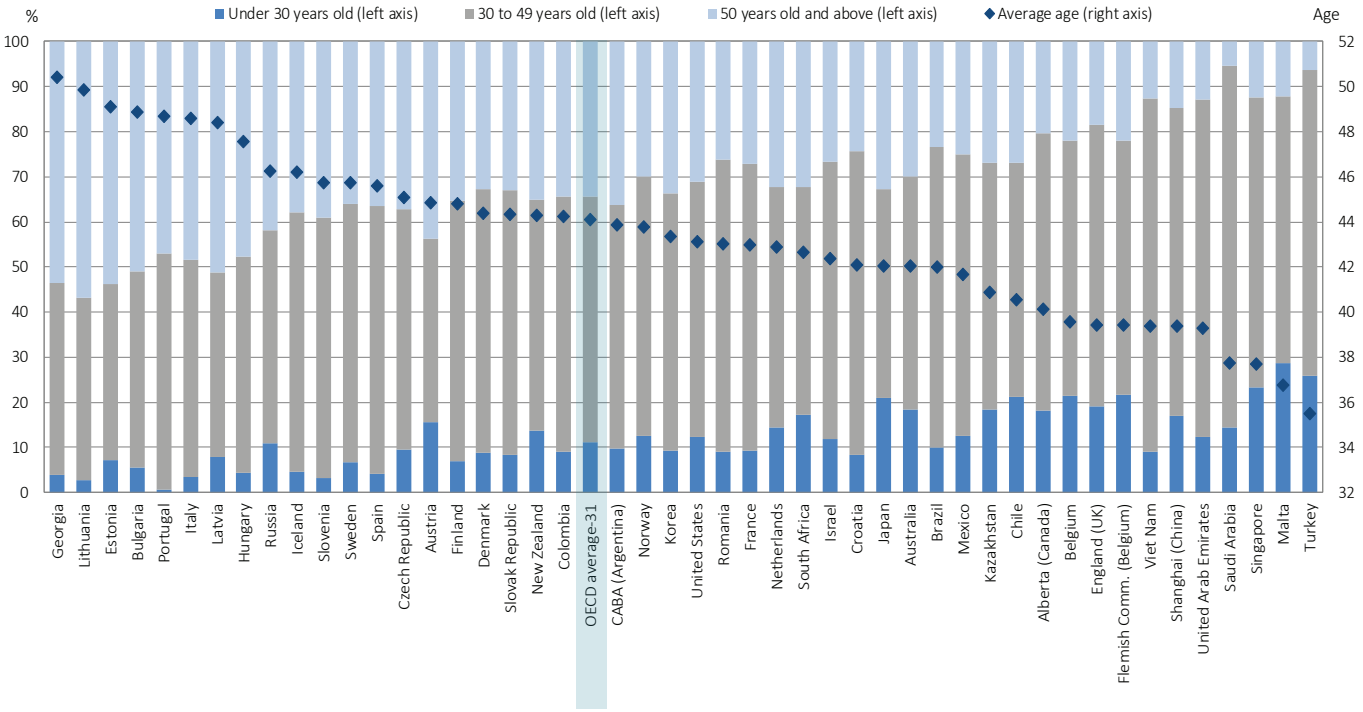
220. In 2018, the average age of teachers across the OECD14 was around 44, with considerable variation across countries (Figure 3.1, Table CON.DESC.AGE). These differences are reflected in varied proportions of younger teachers (under age 30) and older teachers (aged 50 or above). At one end of the spectrum, the average teacher is aged 40 or younger in Belgium (and in the Flemish Community), England (United Kingdom), Malta, Saudi Arabia, Shanghai (China), Singapore, Turkey, the United Arab Emirates and Viet Nam. At the other extreme, the average teacher is over age 48 in Bulgaria, Estonia, Georgia, Italy, Latvia, Lithuania and Portugal.

221. More than half of teachers are aged 50 or above in Bulgaria, Estonia, Georgia, Latvia and Lithuania, and this is also the case for over 45% of teachers in Hungary, Italy and Portugal, suggesting ageing teacher populations. These education systems may face the challenge of replacing teachers in large numbers over the next 15 years (or even sooner), since the average normal pension age in OECD countries in 2016 was 64.3 years for men and 63.7 years for women (OECD, 2017, pp. 93, Table 3.7[25]). Such challenges will inevitably emerge if new teacher recruitment does not keep pace with retirement-induced attrition, after accounting for projected changes in student enrolments (Figure 5.1).

222. While TALIS 2018 demographics data provide a snapshot of the profile of the teacher population in participating countries and economies, changes over time shed further light on its dynamics. Indeed, the challenges faced by policy makers (or expected in the years to come) depend on countries' historical trajectories in education. For example, in many countries, entry of the baby-boom generation into the education system in the 1950s and 1960s combined with widening access to secondary education translated into mass recruitment of teachers in the 1960s and 1970s and hence mass retirements a generation later (Lim, 2013[26]).

Figure 5.1: Teachers' age

Percentage of lower secondary teachers by age group and average age of teachers

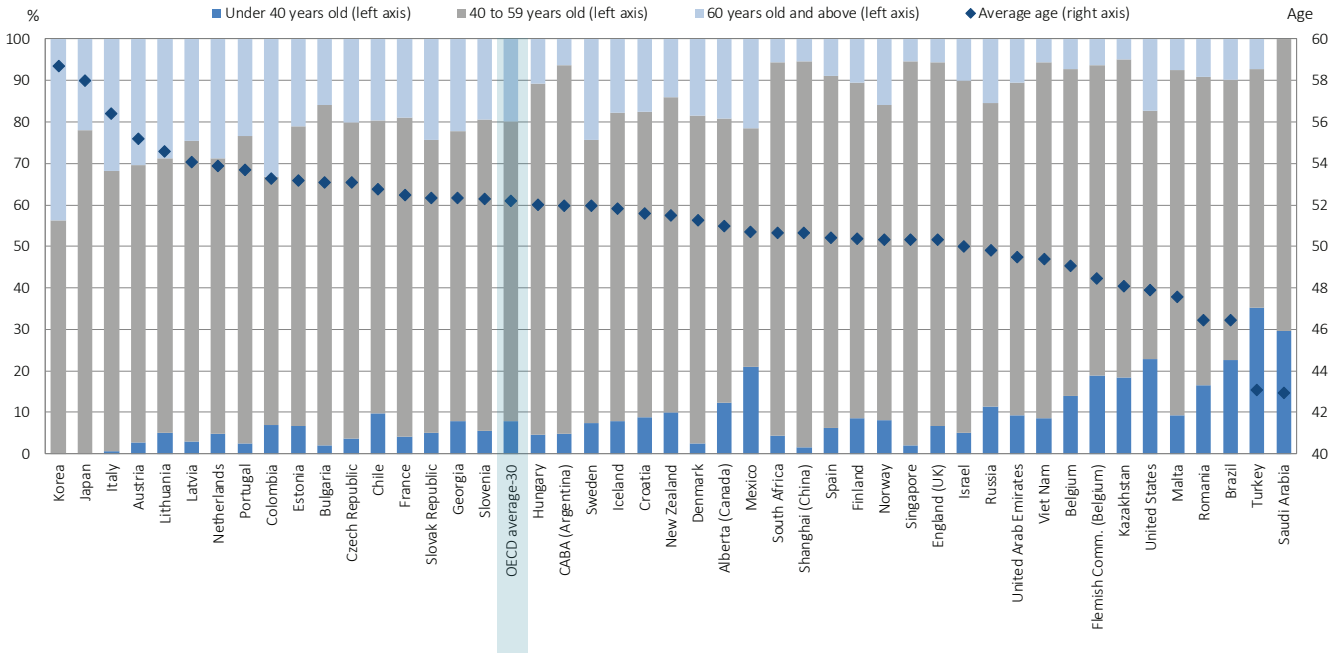


Countries and economies are ranked in descending order of the average age of teachers.
Source: OECD, TALIS 2018 Database, Table CON.DESC.AGE.

223. As far as school leaders are concerned, across the OECD in 2018, the average principal is 52 years old, 8 years older than the average teacher. This is not surprising, as principals are usually recruited from among the ranks of teachers, and their positions often require higher academic credentials and more years of experience. Brazil, Malta, Romania, Saudi Arabia, Turkey and the United States have the youngest principals (under age 48 on average), while the average principal is aged 56 or above in Italy, Japan and Korea. The largest proportions of principals under age 40 are found in Brazil, Mexico, Saudi Arabia, Turkey and the United States, with over 20% of school leaders in this age group. The five countries with the largest proportions of principals nearing retirement (at age 60 or above) are Austria, Colombia, Italy, Korea and Lithuania (Figure 5.2).

Figure 5.2: Principals' age

Percentage of lower secondary principals by age group and average age of principals



Countries and economies are ranked in descending order of the average age of principals.
Source: OECD, TALIS 2018 Database, Table CON.DESC.AGE_P.

224. Demographic patterns of the teacher and principal populations inevitably translate into diverse patterns of teacher and principal experience across countries. In 2018, on average across the OECD, teachers have about 17 years of experience in teaching in total, of which about 10 years is at their current school. Likewise, the average principal across the OECD has 10 years of experience in this role in total in 2018, of which 7 years is at the current school.

225. Changes in the proportions of teachers and school leaders with different levels of experience confirm some of the change patterns identified in relation to ageing of the profession. Brazil, Portugal, Singapore and Shanghai (China) have experienced an increase in the levels of experience ("seniorisation") of their teachers since 2013, with either increases in the share of the most experienced teachers (over 20 years of experience) or decreases in the share of new teachers (less than or equal to 5 years) of at least 5 percentage points. With respect to school leaders, a relative seniorisation of principals has occurred in France since 2013, and in Bulgaria and Estonia since 2008. These systems benefit from having more experienced teachers and principals, but they will need to plan for their replacement in coming years wherever large proportions of staff are over age 60.

226. Patterns of teacher experience vary with respect to the degree to which they have worked (or are still working) in non-education roles in addition to being a teacher, which can signal either late entry into the profession (as a second career) or holding two jobs at a time. On average across the OECD, teachers have worked 3.5 years in non-education roles. Work experience outside education is commonplace in Alberta (Canada), Brazil, Ciudad Autónoma de Buenos Aires (hereafter CABA, Argentina), Iceland, New Zealand, Sweden and the United States, where teachers have worked at least 5 years on average in non-education roles. But this is seldom the case in Japan, Korea, Saudi Arabia, Shanghai (China), Turkey and Viet Nam.

227. Principals also bring a variety of experiences to their role. School leadership careers typically build upon a foundation of teaching experience, and the average OECD principal has close to 20 years of experience as a teacher as well as 5 years working in school management roles other than principal. However the routes to school leadership positions vary across education systems. Principals in Austria, CABA (Argentina), Japan, Korea and Latvia have the longest teaching background, with over 25 years of teaching experience on average. Intermediate (non-principal) school management roles are most common in England (United Kingdom) and Shanghai (China), where principals have over 10 years of experience in such positions on average. Principals

with the most experience in jobs other than teaching, principal or school management roles (5 years or more) are found in CABA (Argentina), Colombia, Estonia, Georgia, New Zealand, Sweden and the United States. This suggests that they might have entered the education sector as a second career or that they have or have had two jobs at the same time.

228. The experience of teachers and principals at their current school sheds light on the degree of staff mobility within the system. On average across the OECD, teachers have been working at their current school for 10.2 years, which suggests relatively low levels of staff mobility across schools within the education system. The reasons for this can derive from many different factors: geography (schools dispersed across a large territory with few other schools nearby); legislation (e.g. mandatory staff mobility in Japan and Korea, (OECD, 2005[28]); degree of school autonomy (state or school employer and easiness to transfer to another school); age and settlement in a residential area; and degree of satisfaction with the current school. Mobility across schools is lowest in Georgia, Latvia, Lithuania, the Russian Federation and Slovenia, where teachers have worked at the same school for more than 15 years on average, and highest in Japan, Korea and Turkey, where the average experience at the same school is 5 years or less.

229. Principals in Colombia, France, the Netherlands, Singapore, Sweden, the United Emirates and Viet Nam display the lowest levels of experience at their current school compared to their total experience as principals – suggesting mobility across schools. By contrast, there is little mobility (non-significant difference between total years of experience as a principal and time as a principal at the current school) in 20 countries and economies participating in TALIS.

5.2.2 Gender of teachers and school leaders

230. Information about the gender distribution of the teacher and principal workforces makes it possible to assess the degree of gender imbalance in the teaching profession. This is a well-documented phenomenon, with female teachers dominating the teaching profession, most prominently in pre-primary and primary education, although the differences persist well into secondary education in many countries (OECD, 2018[15]; OECD, 2014[21]; UNESCO Institute for Statistics, 2009[29]; UNESCO Institute for Statistics, 2006[30]). There is also evidence that gender balance issues differ across disciplines (American Academy of Arts & Sciences, 2017[31])[15] levels of education (OECD, 2018[15]) and between the teaching and leadership professions.

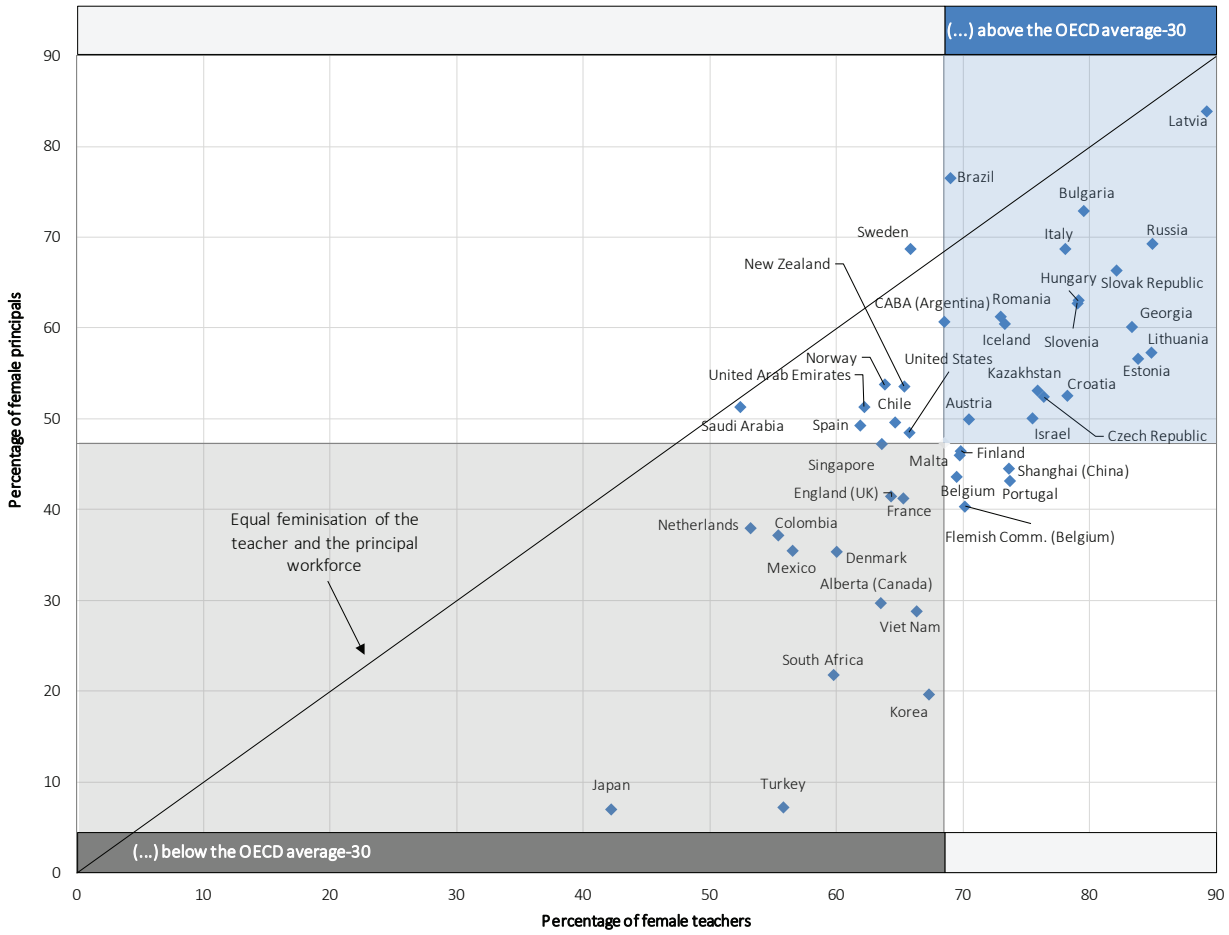
231. Gender imbalances in the teaching profession are a policy concern in a number of systems that struggle to attract men to the profession (Drudy, 2008[32]; OECD, 2009[14]; OECD, 2005[28]), but there are two distinct aspects to this policy issue. The first has to do with the impact of teachers' and principals' gender on students. In terms of education quality, there is little evidence that a teacher's gender has an impact on student performance (Antecol, Eren and Ozbeklik, 2012[33]; Holmlund and Sund, 2006[34]). However, the gender balance of the teaching force has been shown to have an impact on students' attitudes, career aspirations and achievements in some disciplines and contexts, through role model effects (Beilock et al., 2010[35]; Dee, 2005[36]). The effect of a teacher's gender is particularly associated with the learning outcomes of female students (Lim and Meer, 2017[37]), which could be explained by differences in the way teachers interact with students of the same or opposite gender (Jones and Dindia, 2004[38]). The second aspect of gender balance relates to the degree of gender equity within the workforce and gender disparities in the career progression of teachers, as well as the scope for promotion to leadership positions. It is thus interesting to examine gender balance patterns in 2018 and how they have changed since 2008.

232. TALIS data show that in 2018, 68% of all teachers are female, on average across the OECD, and women make up more than half of the teaching workforce in all participating countries and economies, with the exception of Japan. The gender distribution of teachers is most imbalanced in Latvia, where about 90% of teachers are women, as well as in Israel, Italy and a number of other countries in the Balkans, Baltic region, Eastern Europe and Central Asia, where women make up more than 75% of teachers.[16]

233. Women are a majority in the teaching profession in all countries and economies participating in TALIS except Japan, but they are a minority among school principals in around half of the participating countries and economies (Figure 5.3). In 2018, on average across the OECD, only 47% of principals are women, compared to 68% of teachers. This suggests significant gender imbalances in the promotion of female teachers to leadership positions, particularly for countries and economies that are most distant from the equal feminisation line in Figure 5.3. It is important to acknowledge, however, that the cause for this pattern can be endogenous, with a lesser propensity of women to apply for leadership positions, as much as exogenous, with a lesser propensity for women to be selected when applying for leadership positions.

Figure 5.3: Gender balance among teachers and principals

Results based on responses of lower secondary teachers and principals



Notes: Only countries and economies with available data for the percentage of female teachers and the percentage of female principals are shown.
The OECD average-30 includes all TALIS 2018 OECD countries, except for Australia.
Source: OECD, TALIS 2018 Database, Table BIN.SCH.GENDER and Table BIN.SCH.GENDER_P.

234. In a number of countries, often those where women strongly outnumber men among teachers, more than 60% of principals are female. This is the case in Brazil, Bulgaria, CABA (Argentina), Hungary, Italy, Latvia, Romania, the Russian Federation, the Slovak Republic, Slovenia and Sweden. By contrast, female principals are the exception in Japan and Turkey, where they make up less than 10% of the principal population, and they are also scarce in Korea, South Africa and Viet Nam, at less than 30% of the total.

5.3 Changing contexts for teaching and learning

235. Several aspects of diversity in schools and classrooms help to understand the key features of teachers' working conditions and the context in which teaching and learning currently take place in schools. The diversity of student backgrounds encompasses many dimensions, including cultural background, language spoken at home, socio-economic background, ability level and learning needs, as well as gender. Such information is of interest from a descriptive perspective, but also because of the relationship between school composition and other factors, such as student outcomes (OECD, 2015[40]; OECD, 2013[41]; Sirin, 2005[42]) or teaching processes (Echazarra et al., 2016[43]).

236. Analyses of PISA data show that a school's socio-economic background and student intake matter for student performance and that students, regardless of their own socio-economic background, are advantaged scholastically if they attend a school whose students are from more advantaged socio-economic backgrounds (OECD, 2004, p. 189[44]; OECD, 2013[41]), although the strength of this advantage varies across countries. Likewise, data from the 2013 TALIS-PISA link show that the use and impact of effective teaching practices vary depending on school composition (Le Donné, Fraser and Bousquet, 2016[45]). Evidence from PISA also shows that students from immigrant backgrounds who are culturally and ethnically different from other students in their country of schooling perform less well academically and that these cultural differences also relate to their psychological and social well-being at school (OECD, 2015[40]).[17] Furthermore, the way teachers perceive multicultural learning environments shapes, in turn, the effectiveness of their teaching (Stanovich and Jordan, 1998[46]).[18] These findings have heightened interest in the composition of schools' intake and how it relates to the characteristics of teachers, the pedagogical approaches that teachers implement in their classrooms (Echazarra et al., 2016[43]) and the broader policies on diversity adopted in the school.

237. TALIS provides a unique opportunity to investigate these issues, as it asks principals and teachers about the composition of the student body in their school/classroom in terms of special needs, socio-economic disadvantage, immigrant background, language background and refugee status of students. These measures differ from those used in PISA studies (see Box 5.1) and provide more direct context on how teachers and principals perceive the profile of their students. This provides important context for examining teachers' work, school practices related to diversity and teachers' preparedness and confidence to teach in diverse environments.

Box 5.1: School composition in PISA and TALIS

PISA measures of school composition rely upon information collected through student questionnaires administered to a random sample of 30 students in each PISA school and aggregates at the school level of students' responses on their gender, migration background and index of economic, social and cultural status (ESCS). The school socio-economic composition in PISA is the mean value of the ESCS index of students in the school (OECD, 2016[47]).

TALIS relies upon the perspectives of teachers and school leaders on the composition of their school and of teachers on the composition of a randomly selected target class. It asks teachers and school leaders about the share of students with different profiles at the classroom level (this is unique to TALIS) and at the school level.

In TALIS, the approach is different, as it is based on the perceptions of teachers and school leaders. This is more subjective, but it is also more complete than the PISA measures, as principals describe the entire school composition and teachers refer to their entire target classroom (not just a random sample of students), and TALIS uniquely provides information on classroom composition as perceived by teachers. The two approaches provide complementary perspectives on actual school composition. But because TALIS measures reflect the subjective perceptions of teachers and school leaders, it can be argued that they are more likely to be related to teachers' practices (Gay, 2014[48]; Kielly et al., 2014[49]; Lucas, Villegas and Martin, 2014[50])and to school policies put in place by principals.

5.3.1 School and classroom composition

238. A substantial body of research has investigated the impact on student achievement of school and classroom context, conceptualised either as the social composition of the school and classroom or as the neighbourhood in which the school is located (OECD, 2015[40]; OECD, 2013[41]; Sirin, 2005[42]). There is much debate on the extent to which school composition has an effect on student learning outcomes, after controlling for individual student characteristics (Banting and Kymlicka, 2004[51]; Borman and Dowling, 2010[52]; Firmino et al., 2018[53]; Willms, 2010[54]). But school composition remains relevant for policy makers, to better understand the profile of the students that schools and teachers serve and how it has changed over time, so they can provide adequate support and training to schools and teachers.

239. TALIS asks school principals and teachers to estimate the broad percentage (none, 1% to 10%, 11% to 30%, 31% to 60%, more than 60%) of certain types of students in their school (for principals) and in their target class (for teachers): "students with special needs"; "students from socio-economically disadvantaged homes"; students who are immigrant or with migrant background" (hereafter referred to as "students with a migrant background"); "students whose first language is different from the language of instruction or from a dialect of this/these language(s)" (hereafter referred to as "students whose first language is different from the language(s) of instruction"); and "students who are refugees". An international cut-off value is set for each student characteristic, in order to group the percentage categories in a relevant manner.[19]

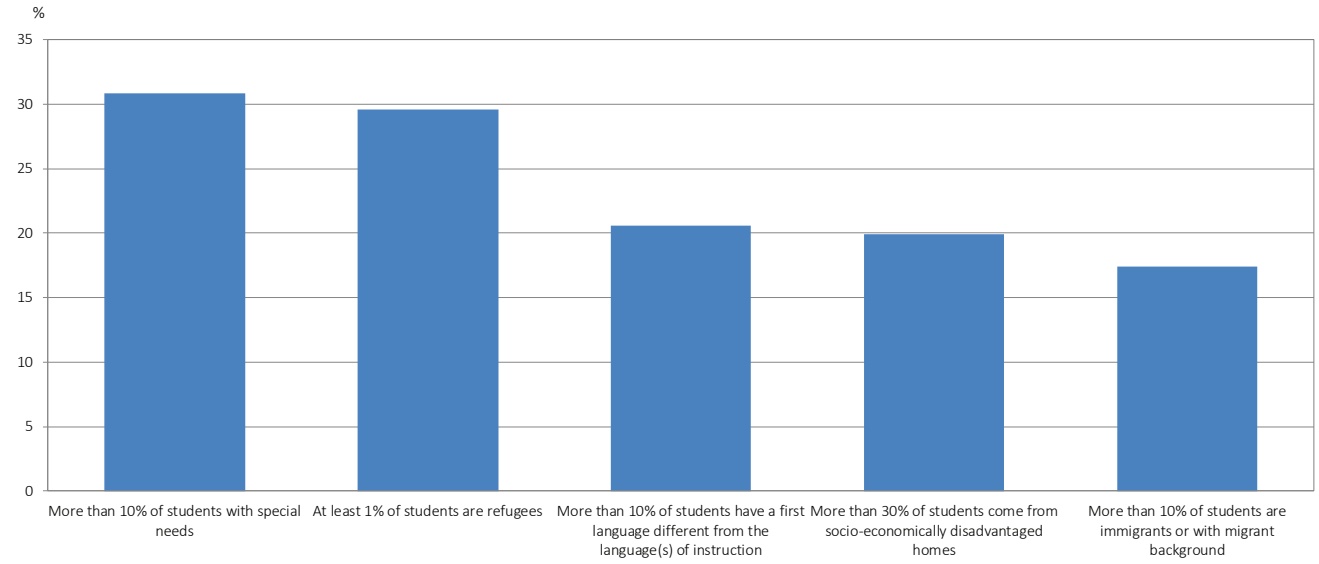
240. As some of these questions were asked in previous cycles of the survey in 2008 and 2013, TALIS 2018 makes it possible to assess the degree to which learning environments have changed in terms of school and classroom composition. But TALIS 2018 tackles topics that have emerged since the last cycle. In particular, it more closely examines students with a migrant or refugee background, as their education is currently a priority for many countries in the context of the global refugee crisis (OECD, 2018[55]; OECD, 2015[40]).

241. In 2018, working with quite diverse student populations is no longer exceptional and is part of the reality for a number of teachers. Depending on which aspect of diversity is considered, 17% to 31% of teachers on average across the OECD work in schools with a diverse student composition as reported by school principals, and since it is unlikely that the same schools concentrate all forms of diversity at the same time, the proportion of teachers actually working with diverse students is likely much higher (Figure 5.4). More specifically, the share of teachers working with these types of students is as follows:

- 31% in schools with at least 10% of students with special needs (i.e. those for whom a special learning need has been formally identified because they are mentally, physically, or emotionally disadvantaged)
- 30% in schools with at least 1% of refugee students (i.e. those who, regardless of legal status, fled to another country seeking refuge from war, political oppression, religious persecution, or a natural disaster)
- 21% in schools with at least 10% of students whose first language is different from the language(s) of instruction or from a dialect of this (these) language(s)
- 20% in schools with at least 30% of socio-economically disadvantaged students (i.e. those whose homes lack the basic necessities or advantages of life, such as adequate housing, nutrition or medical care)
- 17% in schools with at least 10% of students with a migrant background (i.e. those born outside the country or whose parents were both born outside the country).

Figure 5.4: School composition

Percentage of lower secondary teachers teaching in schools with the following composition (OECD average-30)



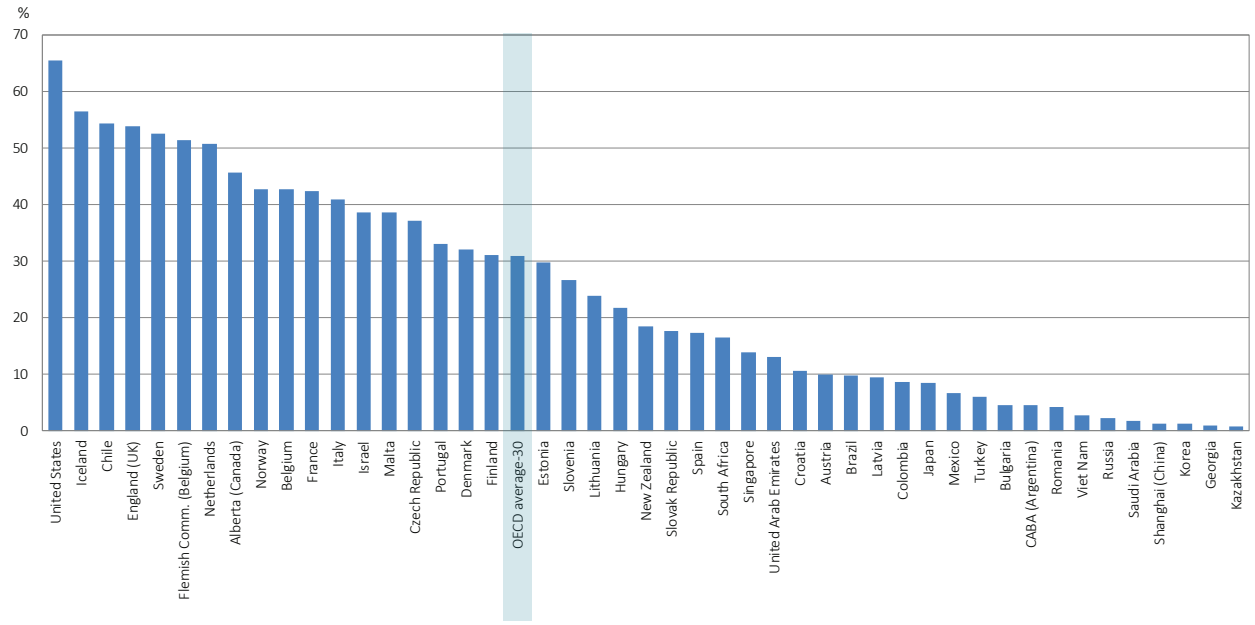
Values are ranked in descending order of the percentage of lower secondary teachers teaching in schools with the following composition.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.STUD_CHAR.

242. However, these averages reflect very different patterns and realities across countries. More than 40% of teachers in Brazil, Chile, Colombia, France, Mexico, Portugal, South Africa and the United States work in schools with over 30% of socio-economically disadvantaged students, according to principals. This pattern may signal either high levels of poverty/inequality in these countries and/or high degrees of social segregation in their education systems. By contrast, fewer than 3% of teachers work in schools with over 30% of socio-economically disadvantaged students in the Czech Republic, Iceland, Malta, and the Russian Federation, suggesting either lower levels of poverty/inequality or lower levels of social segregation in those systems. Teachers' reports on the socio-economic composition of their target class confirm these patterns.

243. With respect to students with special needs, their access to formal education has improved around the world, as a number of international initiatives[20] have acknowledged the rights of children with disabilities to be included in the general education system and receive appropriate instructional support (Cooc, 2018[56]; Peters, 2007[57]; Winzer and Mazurek, 2014[58]; United Nations, 2015[59]). Accordingly, students with special needs are increasingly enrolled in mainstream schools, although the extent to which this is the case varies across countries (Cooc, 2018[56]). In 2018, more than 50% of teachers in Chile, England (United Kingdom), the Flemish Community (Belgium), Iceland, the Netherlands, Sweden and the United States work in schools with at least 10% of special-needs students, according to principals (Figure 5.5). The high concentration of special-needs students in these countries is confirmed by teachers' reports. At the other end of the spectrum, less than 5% of teachers work in schools with a large proportion of special-needs students in Georgia, Kazakhstan, Korea, Romania, the Russian Federation, Saudi Arabia, Shanghai (China) and Viet Nam. There are many causes for these wide differences across countries. They could reflect different conceptions of special needs across countries and the extent of "labelling" and formal identification of special-needs students, differences in the inclusiveness of education systems and the enrolment of special-needs students in regular schools, as well as possible segregation effects (e.g. if only a subset of schools is equipped and staffed to serve them) (Figure 5.5).

Figure 5.5: School concentration of students with special needs

Percentage of lower secondary teachers teaching in schools where more than 10% of students have special needs [1]



1. "Students with special needs" are those for whom a special learning need has been formally identified because they are mentally, physically, or emotionally disadvantaged.
Countries and economies are ranked in descending order of the percentage of teachers teaching in schools where more than 10% of students have special needs.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.STUD_CHAR.

244. Another major societal development in past decades is the growing integration of world economies and societies and associated labour mobility across countries (OECD, 2019[2]; OECD, 2018[55]; OECD, 2015[40]). In some regions, such as the European Union, this phenomenon has been facilitated by regional integration. In other parts of the world, more traditional drivers of economic migration, family reunion and skilled migration have been at play. But a more recent issue has been the rapid surge of refugee flows (OECD, 2018[55]), fuelling yet another type of population movement. With migration on the rise in many parts of the world, the children of immigrants are enrolled in the school systems of their host countries, often requiring specific support from their schools and teachers (OECD, 2015[40]). It is thus interesting to examine how much of a reality this phenomenon is in the countries and economies participating in TALIS.

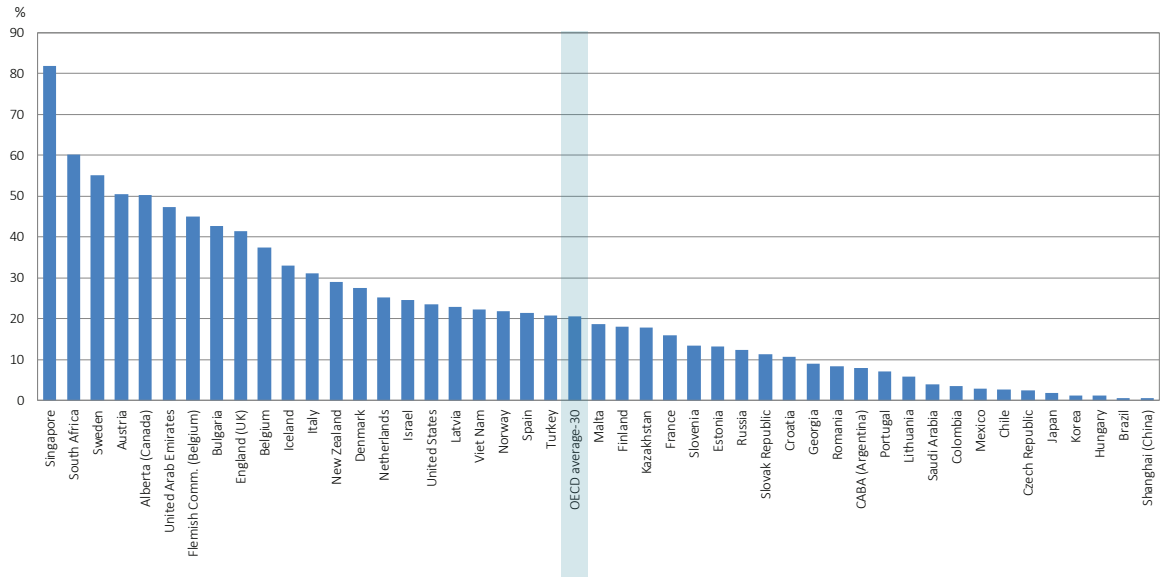
245. The largest proportions of teachers working in schools with more than 10% of students with a migrant background[21] are found in Alberta (Canada), Austria, Belgium (and in the Flemish Community), CABA (Argentina), Italy, Singapore and Sweden, where more than a third of teachers work in such schools, according to their principals. Teachers' reports on the composition of their target class confirm this pattern, with diversity related to students with a migrant background highest in Alberta (Canada), Australia, Austria, Belgium, CABA (Argentina), Sweden and the United Arab Emirates. However, just like the socio-economic composition of schools and classrooms, it is not possible to disentangle whether these patterns reflect large migration inflows or patterns of school segregation, where students with a migrant background are concentrated in some neighbourhoods and the schools located there (OECD, 2015[40]; OECD, 2018[60]). At the other end of the spectrum, countries and economies with traditionally low migration inflows have less than 1% of teachers working in schools with large proportions of students with a migrant background: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Japan, Korea, Lithuania, Romania, Shanghai (China), the Slovak Republic and Viet Nam.

246. Linguistic diversity is a phenomenon related to migration flows. But it can also exist due to the presence of linguistic or Indigenous minorities in a country. On average across the OECD in 2018, 21% of teachers work in schools with more than 10% of students whose native language is different from the language of instruction, according to principals, and 18% of teachers report having more than 10% of students whose first language is different from the language(s) of instruction in their target class. However, this phenomenon is not universally shared across participating countries and economies (Figure 5.6). In Singapore, nearly 82% of teachers work in schools with at least 10% of students whose first language is different from the language(s) of instruction according to their principals, and this is also the case for over 40% of teachers in Alberta (Canada), Austria, Bulgaria, England (United Kingdom), the Flemish Community (Belgium), South Africa, Sweden and the United Arab Emirates. The Singaporean pattern is not surprising, given the multicultural and multilingual make-up of the island state's population and the fact that English was chosen as the language of instruction over the official ethnic languages (Mandarin, Malay and Tamil) (Chua, 2010[61]). Likewise, the other countries above also have large populations of linguistic minorities, immigrants or expatriate workers. At the other end of the spectrum, some education systems face very little linguistic diversity, with less than 5% of teachers working in schools with more than 10% of students whose first language is different from the language(s) of instruction in Brazil, Chile, Colombia, the Czech Republic, Hungary, Japan, Korea, Mexico, Saudi Arabia and Shanghai (China), where the populations are linguistically more homogenous.

247. In South Africa linguistic diversity is only second to Singapore in terms of school concentration of students whose first language is different from the language(s) of instruction (see Figure 5.6).

Figure 5.6: School concentration of students whose first language is different from the language(s) of instruction

Percentage of lower secondary teachers teaching in schools with more than 10% of students whose first language is different from the language(s) of instruction



Countries and economies are ranked in descending order of the percentage of teachers teaching in schools with more than 10% students whose first language is different from the language(s) of instruction.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.STUD_CHAR.

248. TALIS makes it possible to examine the extent to which the 2015-16 refugee crisis is visible in schools across participating countries and economies. As the question on this subject is new to TALIS 2018, it is not possible to analyse change over time. But the 2018 school composition with respect to refugee students provides an indication of the share of teachers directly exposed to refugee students, and presumably some of these refugee students are a result of the refugee crisis. Refugee students often come with a personal history of forced relocation and trauma that requires specific support from the school and its community (Taylor and Sidhu, 2012[62]; Graham, Minhas and Paxton, 2016[63]; Hart, 2009[64]). In nearly half of the participating countries and economies, at least 25% of teachers work in a school with at least 1% of refugee students, according to principals. This is the case for more than 50% of teachers in Austria, Belgium (and the Flemish Community), Denmark, England (United Kingdom), Finland, the Netherlands, Norway and Sweden. By contrast, less than 1% of teachers are working in such schools in Japan, Kazakhstan, Latvia, Romania, Shanghai (China), Singapore and the Slovak Republic, where, according to principals, there are almost no refugees.

249. On these various aspects of school composition, teachers' perceptions on the composition of their target class are generally consistent with the views of their principals on the composition of the entire school, although teachers tend to report less diversity than principals. In the case of Australia, the insufficient response rate for school principals does not allow examination of school composition, but teachers' reports on the composition of their target class suggest that the percentage of teachers working with diverse students is slightly above the OECD average for students from disadvantaged backgrounds and with special needs, about 10 percentage points above the OECD average for students whose home language is different from the language(s) of instruction, and close to 20 percentage points above the OECD average when it comes to students with a migrant background and refugee students.

250. Changes in school composition over time provide a good indication of how much the learning environments have transformed in recent years. TALIS data make it possible to explore this through principals' reports on their school composition in terms of students from disadvantaged homes, students with special needs and students whose first language is different from the language(s) of instruction.[22] It is not possible to do such analysis for students with a migrant background or for refugee students, as these questions are new to TALIS 2018. But changes in linguistic diversity over time provide a good indication of how much the learning environments for teachers have changed in terms of dealing with more linguistically diverse students, irrespective of the underlying cause of this diversity.[23]

251. One group of countries and economies participating in TALIS experienced a rise in linguistic diversity, with a significant increase in the proportion of teachers who work in schools with more than 10% of students whose first language is different from the language(s) of instruction. This is the case in Austria, the Flemish Community (Belgium) and Iceland since 2008, and in Bulgaria, England (United Kingdom), Finland, Portugal and Sweden since 2013. This suggests patterns in these countries of either growing migration/refugee inflows, greater ethnic or linguistic grouping of students, or lag effects from differential birth rates of different linguistic communities that change the linguistic make-up of society (Table BMUL.TR1.STUD_CHAR). By contrast, another group of countries and economies experienced a reverse pattern, with a decrease in the share of teachers working in schools that are very diverse linguistically in Brazil, Korea, Lithuania, Mexico, the Slovak Republic, Slovenia and Spain since 2008, and in Singapore since 2013.

252. With respect to socio-economic diversity; several education systems have experienced a decline since 2013 in the share of teachers working in schools with more than 30% of students from socio-economically disadvantaged homes: Estonia, Israel, Latvia, Shanghai (China) and the Slovak Republic. This may result from a decline in poverty and social inequalities among students in these countries and economies or a rise in school social inclusion. Denmark and Sweden experienced the opposite pattern.

253. As for diversity in terms of educational needs, the share of teachers working in schools with more than 10% of students with special needs has increased in six countries since 2013: Brazil, Chile, the Czech Republic, Italy, Portugal and Singapore. This could result from a greater propensity to identify and detect students with special needs and to implement school policies and practices catering to these students, or changes in how these students are grouped across schools. In three other systems, the share of schools with more than 10% of students with special needs has substantially decreased: England (United Kingdom), Korea and Sweden.

5.3.2 Attitudes of school staff towards student diversity

254. In the context of rising migration worldwide and the growing integration of world economies and labour markets, many societies have become more globalised and multicultural (OECD, 2018[55]; OECD, 2019[2]). This new reality and the challenges and opportunities it entails have prompted academic and policy interest on how education systems manage to integrate populations with a high proportion of students from migrant backgrounds (Alsubaie, 2015[65]; Bowen and Salsman, 1979[66]; Jackson and Boutte, 2018[67]; OECD, 2018[60]; OECD, 2015[40]; OECD, 2012[68]).

255. School responses to student diversity take multiple forms, varying greatly, in prevalence across participating countries and economies, depending on the type of diversity issue. A key aspect of school responses to student diversity derives from the attitudes of staff and their beliefs in relation to equity and diversity. To reduce the risk of socially desirable answers, TALIS asks principals to estimate approximately what proportion of teachers in their school ("none or almost none"; "some"; "many"; or "all or almost all") would agree with a series of statements related to equity and cultural diversity. The responses of principals show that their teachers share very inclusive and positive views on equity and diversity.

256. With respect to equity beliefs, the importance of treating male and female students equally is a belief almost universally shared by teachers, according to their principals: 98% of principals on average across OECD countries and economies report that "many" or "all or almost all" teachers in their school find this important in 2018. The same holds for treating students from all socio-economic backgrounds in the same manner: 97% of principals so report across the OECD. There is not the same consensus that students should be taught how to avoid gender discrimination, with 93% of principals reporting agreement among their teachers on average, and less than 90% in 10 countries and economies. There is also less consensus on the belief that schools should encourage students from different socio-economic backgrounds to work together, with 92% of principals reporting agreement among their teachers on average, and less than 90% in 17 countries and economies.

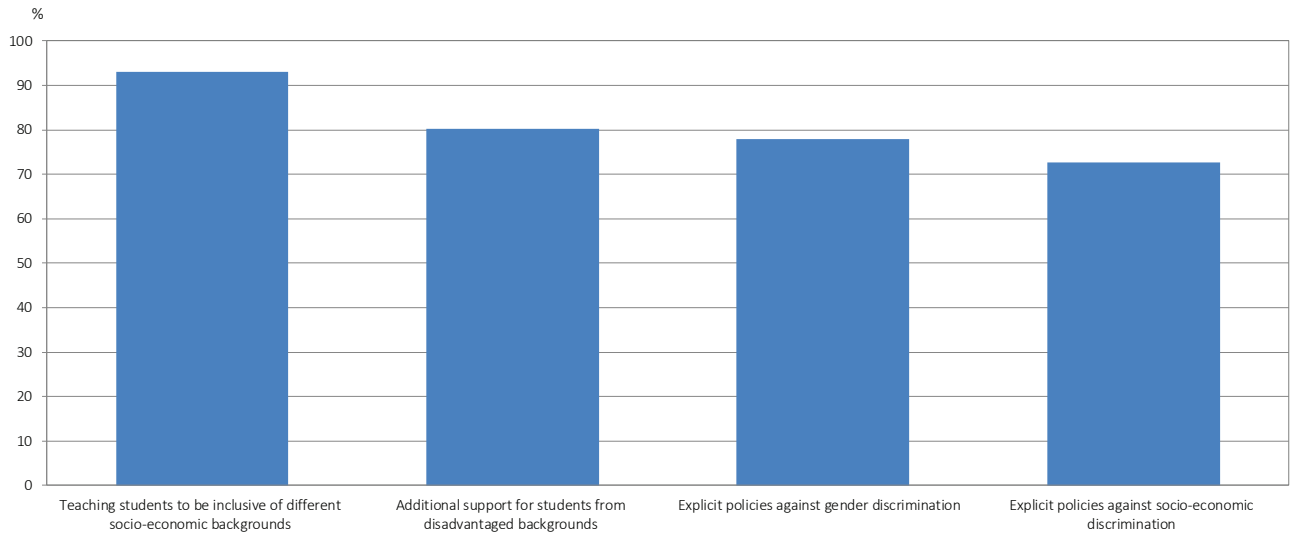
257. As far as cultural diversity beliefs are concerned, the conviction that children and young people should learn that people of different cultures have a lot in common is the most widely shared belief among teachers, according to their school leaders (95% of them so report in 2018). The belief that respecting other cultures is something that children and young people should learn as early as possible comes next (94% of principals reporting agreement among their staff). On average across the OECD, 92% of principals also report agreement among their teachers that it is important for students to learn that people from other cultures can have different values, and 91% of principals report that teachers find it important to be responsive to differences in students' cultural backgrounds. However, fewer than 90% of principals report agreement of their teachers with cultural diversity beliefs in the Czech Republic, Saudi Arabia and Shanghai (China) for all four diversity beliefs, in Alberta (Canada)[24], Belgium (and the Flemish Community) and the Slovak Republic for three diversity beliefs, and in Austria, France, Hungary, Japan, Kazakhstan, Romania, South Africa and Turkey for two diversity beliefs.

258. In 2018, a range of equity-related policies and practices are implemented in schools, according to their principals, to address gender and socio-economic equity issues (Figure 3.9). The most common practice is teaching students to be inclusive of different socio-economic backgrounds (implemented in 93% of schools in 2018, on average across the OECD). The provision of additional support for students from disadvantaged backgrounds comes next (80%), followed by explicit policies against gender discrimination (78%) and explicit policies against socio-economic discrimination (73%). It is noteworthy that, at a time when there is growing awareness of the importance of educating youngsters to respect women at the earliest ages (Simmonds, 2017[69]; UNESCO, 2018[70]), 22% of lower-secondary schools in the OECD do not have explicit policies to fight gender discrimination. Likewise, at a time of growing social inequalities in most OECD countries (OECD, 2018[71]), only 73% of schools have policies combating socio-economic discrimination.

259. Differences exist across participating countries and economies in the prevalence of these equity-related policies and practices. Teaching students to be inclusive of different socio-economic backgrounds is implemented in at least 95% of schools in almost half of participating countries and economies, but in less than 85% of schools in Denmark, Japan, the Slovak Republic, Sweden and Viet Nam. Interestingly, the education systems where this practice is least used are countries with less socio-economic inequality,[25] which may signal that this practice is less necessary. The provision of additional support for students from disadvantaged backgrounds is also a widespread practice, implemented by at least 80% of schools in about 80% of participating countries and economies. But again, it is least used in Finland, Norway as well as in Sweden, where the practice is to support challenging schools and neighbourhoods rather than students within schools, in order to avoid stigmatisation. There is much more variation across systems in the prevalence of explicit policies against gender and socio-economic discrimination. The percentage of schools implementing such policies ranges from around 10% in Denmark to over 95% in the Czech Republic, Finland, Korea and Lithuania for gender discrimination, and over 95% in the Czech Republic and Lithuania for socio-economic discrimination.

Figure 5.7: School practices related to equity

Percentage of lower secondary principals reporting that the following policies and practices are implemented in their school (OECD average-30)



Values are ranked in descending order of the prevalence of equity-related school practices.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.DIV_POL.

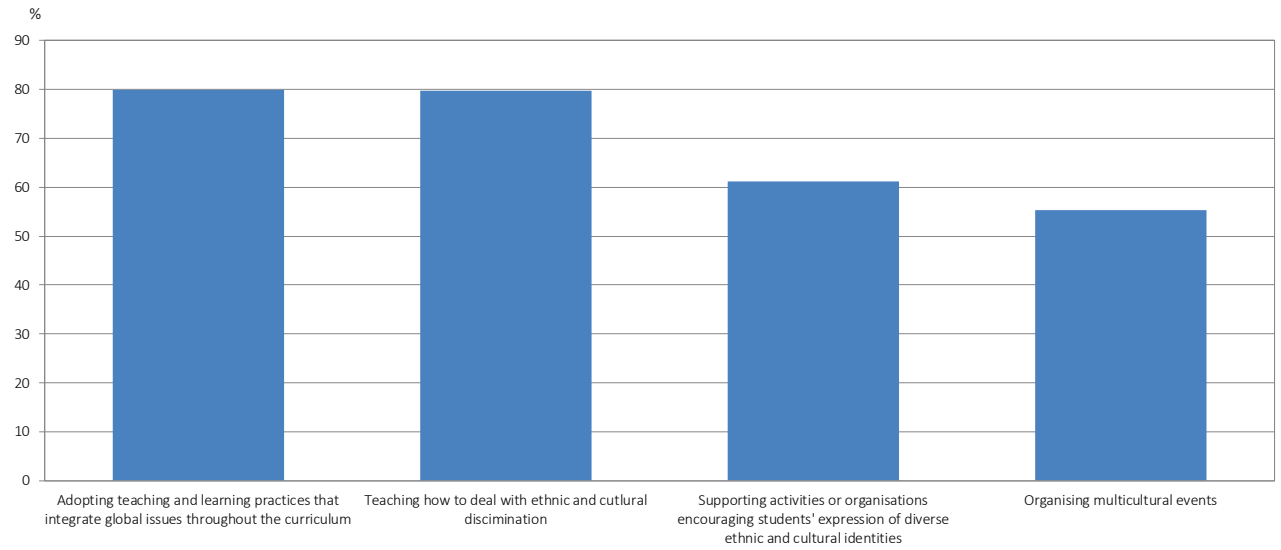
260. For diversity-related school policies and practices, the previous section has shown the wide variation across participating countries and economies in the prevalence of multicultural diversity in the composition of schools. There is also variation in the degree to which schools have adopted specific policies and practices related to multicultural diversity and the nature of these policies and practices at the school level. The examination of these policies and practices is restricted to the sample of teachers who reported that students from more than one cultural or ethnic background are enrolled in their school (around 70% of the sample of teachers across all participating countries and economies and on average across the OECD[27]). For the sake of simplicity, these schools are referred to as "multicultural schools".

261. An important consideration in reviewing school policies and practices related to multicultural diversity is the social context in which they take place. The dominant paradigm in research on cultural diversity identifies two main ideological approaches and perspectives of countries' policies: equity and multiculturalism (Ely and Thomas, 2001[73]). The equity approach emphasises fostering equality and inclusion and valuing diversity. In education, it is often referred to as a colour-blind approach that regards all children in a class as equals, avoids discrimination and treats all students fairly, with the goal of creating and maintaining homogeneity (Schachner et al., 2016[74]). Some argue that, in practice, this homogeneity often implicitly refers to the dominant culture of a country, and tends to be associated with assimilationist ideological models (Plaut, Thomas and Goren, 2009[75]). By contrast, the multiculturalism approach is based on the premise that diversity can enrich the school and promote respect for and knowledge of other cultures and the enhancement of intercultural skills. Accordingly, it acknowledges and recognises expressions of diversity. Although the two policy streams of equity and multiculturalism may seem at odds, empirical studies show that schools often combine components of both (Schachner et al., 2016[76]).

262. In 2018, TALIS examines school policies and practices in relation to cultural diversity for the first time. On average across the OECD, the most common policies and practices related to diversity, according to principals, are those embedded in the teaching process: 80% of teachers working in multicultural schools – that is, schools with more than one cultural or ethnic background among students – do so in a school that has integrated global issues throughout the curriculum, and an equal proportion of 80% work in a school that teaches how to deal with ethnic and cultural discrimination (Figure 3.10). Policies and practices promoting diverse cultures are less common: only 61% of teachers working in multicultural schools do so in a school that supports activities or organisations encouraging students' expression of diverse ethnic and cultural identities, and 55% work in a school that organises multicultural events.

Figure 5.8: School practices related to diversity

Percentage of lower secondary teachers working in a school with diverse ethnic and cultural student background where the following diversity-related practices are implemented [1] (OECD avera



1. Data based on principals' views. Principals' responses were merged to teacher data, and weighted using teacher final weights.
Values are ranked in descending order of the prevalence of diversity-related school practices.
Source: OECD, TALIS 2018 Database, Table BMUL.TP.DIV_PRACT.

263. It is interesting to examine teachers' perspectives on school policies and practices related to multicultural diversity, as they are based on the perceptions of the actors on the frontline of classrooms. They show the wide variation across countries and economies in the prevalence of school policies and practices related to diversity, even when the analysis is limited to teachers working in multicultural schools.

264. According to teachers' views, the education systems where global issues are most systematically integrated into the curriculum of multicultural schools (with over 85% of teachers in multicultural schools so reporting) are Alberta (Canada), Austria, Brazil, Singapore, the United Arab Emirates and Viet Nam. Those where this practice is least common in multicultural schools are Iceland, Japan, Korea and Saudi Arabia. Teaching how to deal with ethnic and cultural discrimination is, according to teachers, most widespread in CABA (Argentina), Chile, Colombia, Singapore, Slovenia and Viet Nam, and least common in the multicultural schools of Denmark, Iceland, Japan, Norway and Turkey.

265. The last two diversity practices examined in TALIS are more illustrative of the multiculturalism approach. Supporting activities or organisations encouraging students' expression of diverse ethnic and cultural identities is most common in Kazakhstan, New Zealand, Shanghai (China), Singapore, the United Arab Emirates and Viet Nam, and least widespread in Denmark, Finland,[28] Japan, Norway and Sweden. Finally, the organisation of multicultural events is most prevalent in the multicultural schools of Kazakhstan, Shanghai (China), Singapore and the United Arab Emirates, and least common in the Czech Republic, Denmark, Japan, the Netherlands, Norway, Sweden and Turkey.

266. As for equity-related school policies and practices, the limited number of principals' observations in each country does not allow regression analyses on the factors associated with diversity-related school policies and practices. Interestingly, at the system level, the proportion of teachers working in linguistically diverse schools, which can act as a proxy for schools' cultural diversity, is unrelated to the share of schools with multicultural policies and practices as reported by principals (the linear correlation coefficient is close to 0).

5.3.3 Teachers' readiness to teach in multicultural environments

267. With migration on the rise in many parts of the world (OECD, 2018[55]), the children of immigrants are enrolled in the schools of their host countries and a number of education systems have experienced an increase in the linguistic diversity of their students over the past decade. This phenomenon is not exclusively driven by migration flows, but it is strongly related to migration patterns and the countries of origin of immigrants and refugees. An implication of both migration/refugee flows and greater linguistic diversity in schools is that schools and teachers increasingly need to cater to multicultural student profiles.

268. In this context, a key issue for policy makers and school leaders is to understand teachers' readiness to teach multicultural classes. Indeed, a recent international review of the integration of immigrant students acknowledged that handling cultural diversity in class is difficult and requires preparation. Often, students differ not only in the knowledge and skills they have acquired in their early years, but also in the strategies they use to approach and solve problems. De Abreu (2006[77]) argues that, in mathematics for instance, teachers who are not fully aware of cultural differences in approaches to mathematical problems or who play down cultural differences, arguing for general notions of ability and equity, are ill-equipped to build on their students' knowledge and experience (OECD, 2015[40]).

269. It is thus important to examine how confident teachers feel about teaching a culturally diverse class. TALIS 2018 includes several questions on teaching in diverse environments for teachers who have previously taught a classroom with students from different cultures.[29] In particular, TALIS asks teachers to report on their preparedness for teaching in a multicultural or multilingual setting. As discussed in Chapter 4, the vast majority of teachers did not feel ready for the challenge at the time they completed their teacher education. Indeed, more than 50% of teachers report that they were not prepared to teach in a multicultural or multilingual setting in all participating countries except Shanghai (China), Singapore, South Africa and the United Arab Emirates.

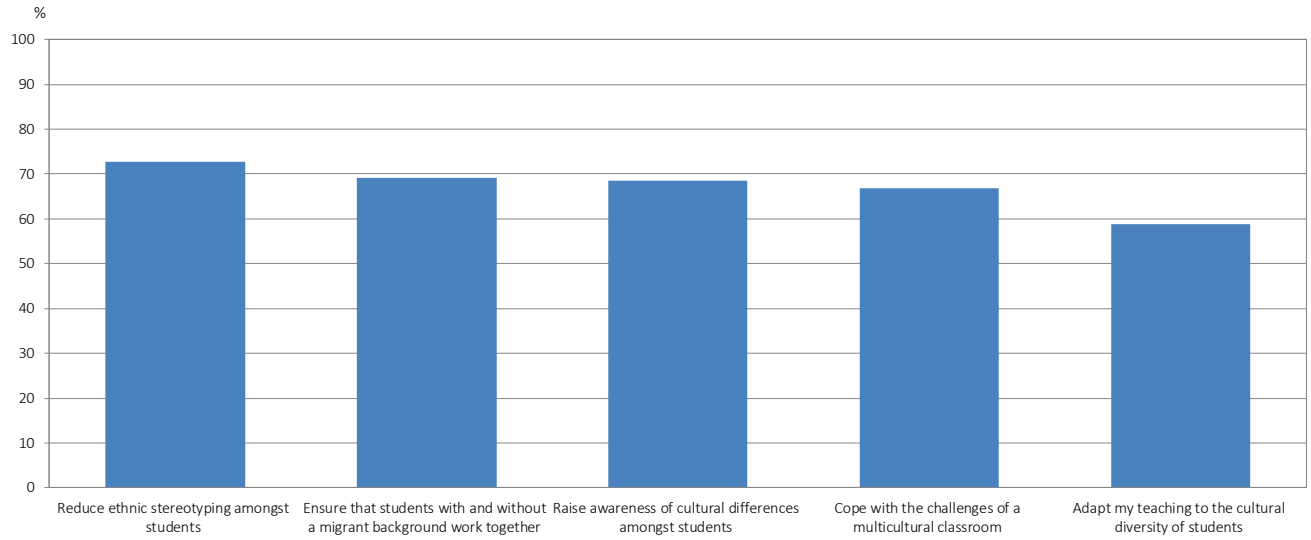
270. TALIS also asks about teachers' perceived need for professional development. As noted in Chapter 5, 15% of teachers report a high need for professional development in teaching in a multicultural or multilingual setting, and this need has become even more prominent in 2018. It is now the third-highest area of need for professional development reported by teachers, after teaching students with special needs and ICT skills for teaching.

271. TALIS 2018 also asks teachers who have previously taught classrooms with students from different cultures a range of questions about their experience and self-efficacy teaching a culturally diverse class, and to what extent ("not at all"; "to some extent"; "quite a bit"; "a lot") they can manage a number of aspects of teaching in multicultural contexts. Results show that on average across the OECD:

- Teachers' self-efficacy in multicultural settings is highest with respect to reducing ethnic stereotyping among students, with 73% of teachers feeling that they can do this "quite a bit" or "a lot" (Figure 5.9).
- Ensuring that students with and without a migrant background work together comes next, with 69% of teachers reporting high levels of self-efficacy in this area.
- 68% of teachers report high levels of self-efficacy in raising awareness of cultural differences amongst students.
- 67% report high levels of self-efficacy in coping with the challenges of a multicultural classroom.
- It is noteworthy that the proportion of teachers reporting high levels of self-efficacy drops to 59% when it comes to adapting their teaching to the cultural diversity of students, i.e. much lower than for aspects related to promoting positive relationships and interactions between students from different backgrounds (Figure 5.9). This pattern mirrors the finding from Chapter 3 that teachers' reported need for professional development is higher for teaching in a multicultural setting than for communicating with people from different cultures or countries.

Figure 5.9: Teachers' self-efficacy in teaching multicultural classes

Percentage of lower teachers who feel they can do the following "quite a bit" or "a lot" in teaching a culturally diverse class [1]



1. The sample is restricted to teachers reporting to have already taught a class with students from different cultures.

Values are ranked in descending order of the percentage of teachers reporting that they feel they can do the following "quite a bit" or "a lot" in teaching a culturally diverse class.

Source: OECD, TALIS 2018 Database, Table BMUL.NO.DIV_SEFF.

272. The examination of country-specific patterns of self-efficacy in multicultural settings reveals interesting regional and cultural patterns. With respect to adapting teaching to the cultural diversity of students, more than 90% of teachers report high self-efficacy in Colombia, Portugal and the United Arab Emirates, but this is the case for less than half of teachers in Estonia, Finland, Japan, Korea, the Netherlands, Norway and Slovenia. When examining all aspects of self-efficacy in multicultural settings, teachers tend to display high levels of multicultural self-efficacy in Latin American and Middle Eastern countries and in Portugal, but lower levels of self-efficacy in multicultural settings in Asian and Nordic countries. One has to keep in mind, however, that TALIS captures teachers' perceptions that are subjective and may be subject to cultural bias, particularly for self-evaluative questions such as self-efficacy (He and Kubacka, 2015[78]). Therefore, comparisons across countries and economies need to be interpreted with caution.[30]

273. On average across OECD countries and economies, teachers tend to feel more confident in their ability to teach a class with students from different cultures when their class actually includes higher shares of immigrant students and students whose first language is different from the language(s) of instruction (more than 10% of these students versus 0% to 10%). Teachers' ability to teach multicultural classes is positively related with one or both of these measures of classroom composition in about two-thirds of the countries and economies participating in TALIS. There are a range of possible explanations for this finding. Assuming that classes do not become culturally diverse overnight, this finding may suggest a pattern of learning by doing, whereby past experience in teaching in a multicultural setting is a key lever of teachers' self-efficacy in teaching in multicultural environments. Along the same lines, another possible reason is that schools with culturally-diverse populations receive or develop targeted in-house professional development, which has a direct impact on feelings of efficacy of their teachers. Selection issues may also be at play, whereby teachers with more multicultural self-efficacy are more likely to choose to teach at multicultural schools, and multicultural schools are more likely to hire teachers with higher multicultural self-efficacy, or assign teachers with high multicultural self-efficacy to the more diverse classrooms within schools.

274. There are hardly any countries where the share of students with refugee status in a class is significantly related to teachers' self-efficacy in teaching in multicultural settings. However, in four European countries, the Czech Republic, Latvia, Norway and Portugal, teachers tend to report feeling less able to teach a multicultural class when they have at least one refugee student in their classroom. This negative relationship could be explained by the specificities of teaching refugees, students who may have experienced a trauma and arrived in the host country with little preparation in the language of instruction (Graham, Minhas and Paxton, 2016[63]; Hart, 2009[64]). The massive and sudden inflow that occurred in some countries (especially Sweden) may have also taken teachers and schools by surprise (OECD, 2018[55]), with little time to adjust, leaving them feeling unprepared. The teachers who are actually coping with these infrequent situations may, in fact, be quite realistic about the challenges they entail.

5.4 Enhancing school climate and learning environments

275. An important issue for policy makers, principals, teachers and parents alike is to understand the dynamics at play in school and classroom climates, as research shows that a positive school climate is a powerful direct or indirect influence on student learning and social well-being (Battistich et al., 1997[79]; Bryk and Schneider, 2002[80]; Cohen et al., 2009[81]; Engel, Rutkowski and Rutkowski, 2009[82]; Hoy, Tarter and Hoy, 2006[83]; Martin et al., 2013[84]; Nilsen and Gustafsson, 2014[85]), as well as on teachers' sense of efficacy, confidence, and commitment to teaching (Carroll et al., 2005[86]; Hoy and Woolfolk, 1993[87]; Weiss, 1999[88]). School climate is a collective indicator of the culture of schools that encompasses physical, social and academic dimensions (Epstein and Mcpartland, 1976[89]). School safety can be conceptualised as pertaining to the physical and social dimensions of school climate. At a more micro-level (i.e. the class level), the relationships students forge with their teachers, the support they get from them, as well as the disciplinary climate in the classroom are also crucial aspects for teacher and student well-being and student learning. It is particularly relevant to examine classroom discipline, in light of its relation to teaching time and, by implication, to students' opportunity to learn (Le Donné, Fraser and Bousquet, 2016[45]; Vollmer, 2000[90]).

276. As earlier cycles of TALIS had asked teachers and principals about various aspects of school and classroom climates, TALIS 2018 provides a unique opportunity to investigate changes over time in this area and how the various dimensions of school safety, student-teacher relations and classroom discipline have changed since 2008.

5.4.1 Safety of schools' learning environments

277. TALIS asks school principals about the frequency of a number of incidents related to school safety, more specifically the frequency with which they occur in their school ("never"; "less than monthly"; "monthly"; "weekly"; or "daily"). While it is important to keep in mind that these reports reflect principals' perceptions and awareness of incidents as much as their actual prevalence, they nevertheless shed light on the safety of schools. Fortunately, on average across the OECD, schools in 2018 are, for the most part, immune from weekly or daily school-safety incidents and thus provide students with safe learning environments (Figure 5.10). Some issues of traditional concern to parents do, in fact, occur on a weekly basis in a small minority of schools (under 3%). This is the case for the use/possession of drugs or alcohol (an issue occurring at least weekly in only 1% of schools on average in the OECD), physical injury caused by violence among students (2%), vandalism and theft (3%) or the posting of hurtful information about students on the Internet (2.5%). Incidents related to intimidation or verbal abuse of teachers/staff or unwanted electronic contact among students are slightly more frequent (occurring at least weekly in 3% to 4% of schools) (Figure 5.10).

278. However, one issue stands out in the reports of school principals on school safety: reports of regular incidents related to intimidation or bullying among students are significantly higher than for the other school safety incidents, occurring at least weekly in 14% of schools on average across the OECD. This is an issue of concern for policy

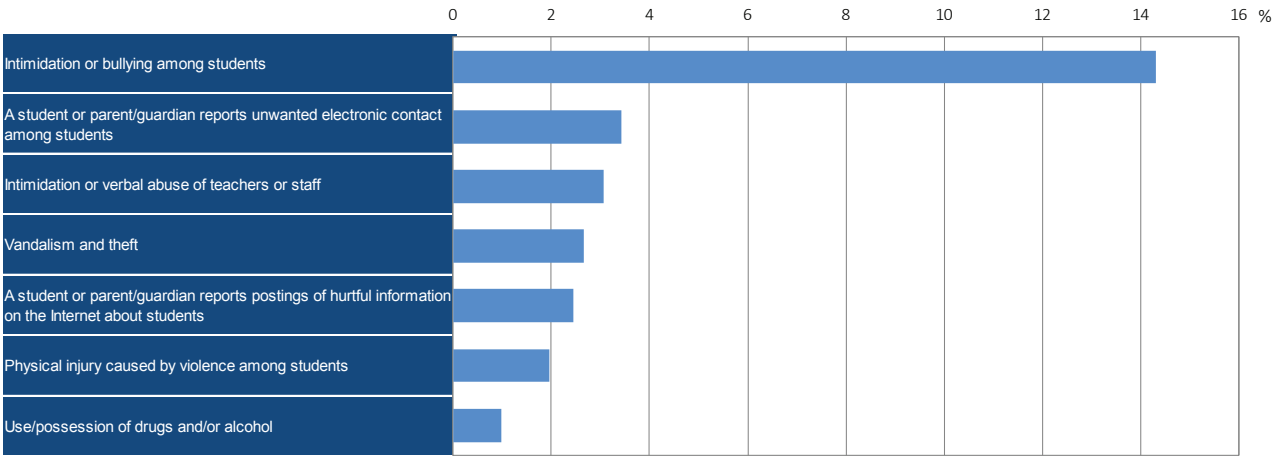
makers, teachers, principals and parents, given the enduring impact of intimidation and bullying on the well-being, confidence and achievement of students who are victims of it, as well as its potentially dramatic consequences (Hoy, Hannum and Tschannen-Moran, 1998[91]). According to principals' reports, this problem is most frequent in Belgium (and the Flemish Community),[31] Malta, New Zealand and South Africa (occurring at least weekly in 30% to 40% of schools), as well as in Brazil, Bulgaria, England (United Kingdom), Finland, France, Israel, Sweden and the United States (occurring at least weekly in 20% to 30% of schools). This phenomenon might also be a significant issue in Australia.[32] By contrast, this issue is, according to principals' reports, extremely rare in Japan, Kazakhstan, Korea and Shanghai (China) .

279. Likewise, it is worrisome that 3% of schools face issues of intimidation or verbal abuse of teachers or staff at least weekly. This can also have enduring consequences for their well-being, stress levels, confidence and, eventually, for their retention in the profession (Guo and Higgins-D'Alessandro, 2011[92]). Brazil and the Flemish Community (Belgium) are the education systems where this issue seems most frequent, as it occurs at least weekly in over 10% of schools. Intimidation or verbal abuse of teachers or staff also happens at least weekly in 5% to 10% of schools in Belgium, Colombia, Denmark, Estonia, New Zealand, Saudi Arabia, South Africa, Sweden and the United States.

280. Country-specific patterns shed light on the specific challenges faced by different countries and economies in relation to school safety. The education systems where school safety incidents are most frequent and widespread, according to principals, are Belgium (and the Flemish Community) as well as Brazil, England (United Kingdom) and South Africa, where at least 10% of principals report school safety incidents at least weekly on at least three of the seven dimensions of school safety examined in TALIS.

Figure 5.10: School safety

Percentage of lower secondary principals reporting that the following incidents occurred at least weekly in their school (OECD average-30)



Values are ranked in descending order of the percentage of lower secondary principals reporting that the following incidents occurred at least weekly in their school.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.SCH_SAFETY.

5.4.2 Teachers' relationships with students

281. TALIS sheds light on relationships in the school by asking teachers a series of questions on teacher-student relations, which provide indications on whether teachers and students get along well, as well as on the school climate as it pertains to supporting student well-being. These data suggest that relations between teachers and their students are extremely positive. On average across the OECD, 96% of teachers agree or strongly agree that most teachers believe that the students' well-being is important, and 96% also agree or strongly agree that teachers and students usually get on well with each other. High shares of teachers also concur with the statements that most teachers are interested in what students have to say (93%) and that, if a student needs extra assistance, the school provides it (92%).

282. When examining country-specific patterns, it is striking that over 90% of teachers agree that teachers and students get along well in all participating countries and economies, except South Africa, which is just under 85%. Teachers' valuing of students' well-being is also a widely shared belief across countries and economies participating in TALIS, since only Kazakhstan and the Slovak Republic have levels of agreement below 90% for the statement that most teachers believe that the students' well-being is important. By contrast, there is less consensus on the statements that most teachers are interested in what students have to say and that if a student needs extra assistance, the school provides it.

283. TALIS also asks teachers the extent to which teachers in the school can rely on each other. This provides additional information on the degree of cohesion and reliance, as another important element of the school climate (Finnan, Schnepel and Anderson, 2003[93]; Ghaith, 2003[94]). Teachers' agreement on this statement (87% on average across the OECD) is noticeably below the wide consensus on teacher-student relations, as 13% of teachers of teachers perceive that cohesion with their colleagues is insufficient. This pattern is particularly marked in Mexico (only 66% agreement), but also to a lower extent (79% to 83%) in Colombia, Croatia, Hungary, Japan, Portugal, South Africa and Turkey.

284. The analysis of teacher-student relations over time confirms the findings on school safety that the school climate has improved overall in a majority of TALIS countries and economies since the first TALIS survey in 2008:

- On the belief that teachers and students usually get on well with each other, Israel is the only country that has seen a moderate decrease in the proportion of teachers concurring with this statement since 2013 (2 percentage points). All other countries and economies either did not experience much change, or saw an improvement in teacher-student relations, with the most significant progress on this dimension of school climate in Estonia, Mexico, the Slovak Republic and Lithuania since 2008, and Italy since 2013, with changes greater than 5 percentage points.
- Teachers' belief in the importance of student well-being has also progressed in the vast majority of countries, most in Korea and Turkey since 2008. But Hungary and the Slovak Republic have experienced a reverse pattern, with less agreement among teachers on this statement in 2018 than in 2008.
- The other two dimensions of teacher-student relations reveal more nuanced patterns, with improvements in a number of countries and economies, but declines in others.

5.4.3 Disciplinary climate in today's landscape

285. TALIS tackles the issue of discipline by asking teachers their level of agreement ("strongly disagree"; "disagree"; "agree"; or "strongly agree") with four statements about the disciplinary climate in their target class. In 2018, disciplinary issues in the target class are reported by 26% to 29% of teachers, on average across the OECD. More specifically, 29% of teachers agree or strongly agree that they "lose quite a lot of time because of students interrupting the lesson", 28% that they "have to wait quite a long time when the lesson begins for students to quieten down", and 26% that "there is much disruptive noise in the classroom". Mirroring these disciplinary issues, only 71% of teachers agree that students in their target class "take care to create a pleasant learning atmosphere".

286. Country-specific patterns on these various aspects reveal that some education systems are more affected by disciplinary issues than others, with either disruptive behaviours reported by 40% of teachers or more, or a pleasant learning atmosphere reported by fewer than 60% of teachers. This is the case for Brazil on all four dimensions of the school disciplinary climate, in Chile and Spain for three dimensions of the disciplinary climate, and in Belgium, Iceland, Portugal and South Africa for two dimensions.

287. Classroom disciplinary climate, as perceived by teachers, varies with classroom composition. Logically, on average across the OECD and in all countries and economies participating in TALIS (except Viet Nam), the higher the concentration of students with behavioural problems in the classroom, the more teachers report a lack of discipline. This still holds after controlling for other classroom composition indicators and for teachers' characteristics – gender, employment status and years of experience. Conversely, the need for more discipline is lower in classrooms with a higher share of academically gifted students in almost all participating countries, except Japan, Portugal and Romania, both before and after controlling for teacher characteristics.

288. The other aspects of classroom diversity are not as clearly related to classroom disciplinary climate, from a cross-country perspective. Only a few countries show a significant relationship between some other indicator of classroom composition and greater need for disciplinary climate. Indeed, the share of students whose first language is different from the language of instruction is negatively related to disciplinary climate in only eight countries and economies (Estonia, the Flemish Community of Belgium, France, Malta, Norway, the Russian Federation, Sweden and the United Arab Emirates), both before and after controlling for teacher characteristics, in addition to other classroom composition indicators. By contrast, three countries show a positive relationship between the share of students whose first language is different from the language of instruction and disciplinary climate, after controlling for classroom and teacher characteristics: Italy, Latvia and New Zealand.

289. Changes in the classroom disciplinary climate reveal the progress achieved between 2013 and 2018 by about two-thirds of the participating countries and economies with available data, but also weakening of the disciplinary climate of another group of countries and economies. The loss of teaching time due to students taking time to quieten down at the beginning of the lessons is less of an issue for teachers in 2018 than it was in 2013 (**Error! No bookmark name given.** Since 2013, the share of teachers reporting this issue as a problem in their target class has decreased most in Norway (-20 percentage points), Estonia (-6), Israel (-5), Latvia (5) and Singapore (5). By contrast, this aspect of the disciplinary climate has worsened since 2013 in Bulgaria, the Flemish Community (Belgium), Korea, New Zealand, Portugal and Romania. Teaching time is also lost due to students interrupting the lesson once it has started. This aspect of the classroom disciplinary climate closely mirrors the changes over time with respect to time lost at the beginning of the class.

290. Another common disciplinary issue at the classroom level is disruptive noise in the classroom, which prevents students and teachers from concentrating on the lesson. Changes over time for this aspect of the classroom disciplinary climate display mixed patterns, with roughly equal numbers of countries experiencing improvement or decline in this area. It should be kept in mind, however, that an increase in the prevalence of disruptive noise could be the result of a change in teaching practices leading to changes in teachers' perceptions of disturbances as much as a change in disciplinary aspects alone.

291. Country-specific changes in the different classroom disciplinary climate dimensions underline consistent patterns for some countries. According to teachers' reports, the classroom disciplinary climate has worsened for at least three of the classroom disciplinary climate dimensions in Bulgaria, the Flemish Community (Belgium) and New Zealand since 2013, and in Austria, Brazil, Bulgaria and Slovenia since 2008. By contrast, the classroom disciplinary climate has improved on at least three dimensions in the Czech Republic, Estonia and Singapore since 2013, as well as in Denmark and Norway[33] since 2008.

292. In interpreting these change patterns, however, it is important to keep in mind that they are based on teachers' perceptions of the classroom disciplinary climate, and as such, may reflect a range of factors as much as actual changes in students' behaviours. Indeed, different mechanisms may be at play, such as changes in instructional practices, specific emphasis of professional development activities on classroom management/climate issues in recent years, or generation effects in cases where the age structure of the teaching workforce has evolved and different cohorts of teachers react differently to minor lesson interruptions (e.g. considering whether they are problematic and worth reporting).

5.4.4 School climate, teaching practices and teachers' self-efficacy

293. Beyond the reports of school principals and teachers on the school and classroom climate and related changes over time, it is also important to examine the extent to which the school and classroom climate relates to teaching practices used by teachers and teachers' perceived efficacy (Kraft, Marinell and Shen-Wei Yee, 2016[95]; Maxwell et al., 2017[96]; Thomas and Bass, 1992[97]). These relationships can explain whether and to what extent the link between school climate and student achievement is mediated by teacher's practices and perceptions.

294. Regression analyses show that teachers who report a greater lack of discipline in their classroom tend to feel less confident in their teaching ability and to spend less classroom time on actual teaching and learning. These relationships hold for all countries and economies participating in TALIS with available data, both before and after controlling for teacher characteristics. Teachers with less disciplined classes also tend to engage their students less frequently in practices pertaining to cognitive activation,[34] such as presenting tasks for which there is no obvious solution, giving tasks that require students to think critically, having students work in small groups to come up with a joint solution to a problem or task, and asking them to decide on their own procedures for solving complex tasks. This holds true for all countries and economies participating in TALIS, except Alberta (Canada), CABA (Argentina), Iceland, Japan and Viet Nam.[35]

5.5 Challenges and priorities, according to teachers and school leaders

295. As shown at the beginning of this chapter, the landscape for teaching and learning has changed significantly over the past decade, in ways that can be challenging for teachers and principals in their efforts to deliver quality instruction. At the same time, since the turn of the 21st century, there has been growing interest in the academic and policy spheres in teacher professionalism as an approach to educational reform (Harris-Van Keuren, Silova and McAllister, 2015[98]; OECD, 2016[99]). One of the key aspects of the professionalisation of the teaching workforce is the role of teachers and their representative organisations in the areas of educational policy making and resource allocation (Darling-Hammond and Lieberman, 2012[100]; Lai and Lo, 2007[101]), although this aspect is relatively little explored beyond the school level. As the voice of teachers (and principals), TALIS provides an opportunity to sound out teachers and school leaders on the challenges they face and the priorities they feel policy makers should address, acting as an upward-feedback mechanism for the education system as a whole. More specifically, TALIS 2018 explores the views of these frontline actors on their educational policy priorities, particularly with regard to resource allocation within education systems (OECD, 2017[102]).

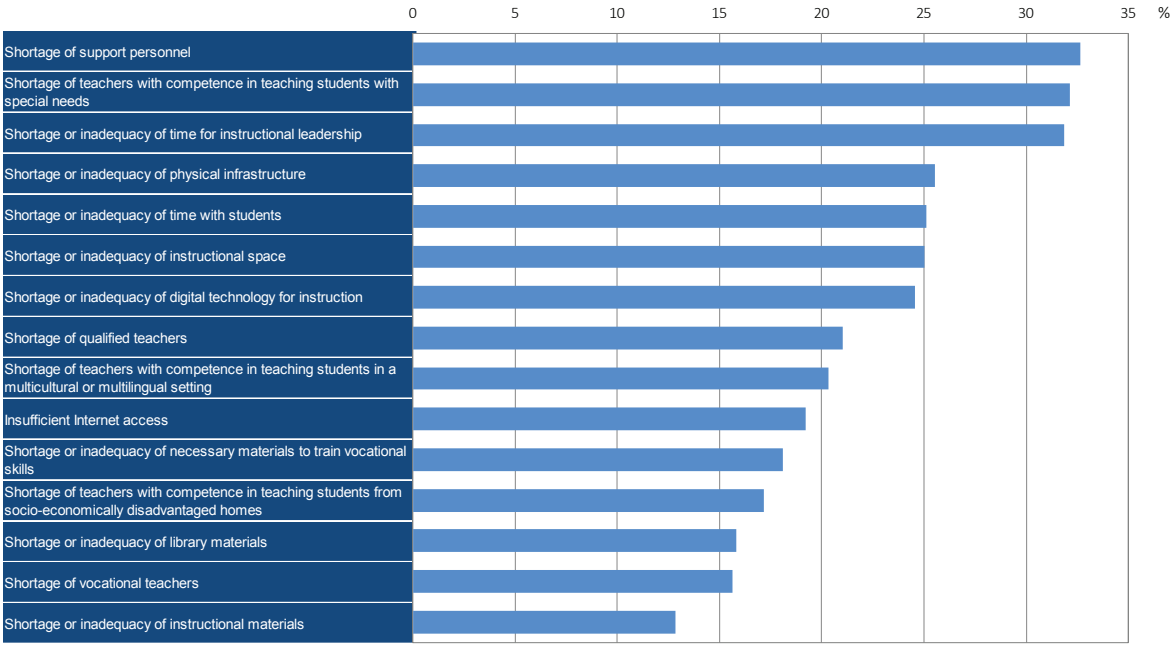
5.5.1 School leaders' views on school resources issues that hinder quality instruction

296. A first approach is to ask school principals about the school resources issues that they feel hinder their school's capacity to provide quality instruction. TALIS has asked them this question since 2008, but the coverage of issues broadened in 2013, so that indicators of changeover time are available for a larger number of issues from then. In particular, on a number of resources issues, TALIS asks principals to what extent they hinder quality instruction ("not at all"; "to some extent"; "quite a bit"; or "a lot").

297. In 2018 on average across the OECD, the three most common resources issues in schools (reported by one-third of principals as hindering the school's capacity to provide quality instruction "quite a bit" or "a lot") are: "shortage of support personnel" (33%); "shortage of teachers with competence in teaching students with special needs" (32%); and "shortage or inadequacy of time for instructional leadership" (32%). The next most common issues (reported by one-quarter of principals are: "shortage or inadequacy of physical infrastructure" (26%); "shortage or inadequacy of time with students" (25%); and "shortage or inadequacy of instructional space" and "shortage or inadequacy of digital technology for instruction" (both 25%). About one-fifth of principals reported that the issues hindering quality instruction are: "shortage of qualified teachers" (21%) and "shortage of teachers with competence in teaching students in a multicultural or multilingual setting" (20%) .

Figure 5.11: Shortages of school resources that hinder quality instruction

Percentage of lower secondary principals reporting that the following shortages of resources hinder the school's capacity to provide quality instruction "quite a bit" or "a lot" (OECD average-30)



Values are ranked in descending order of the prevalence of shortages of school resources.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.SCH_RES.

298. Resources issues differ widely across countries and economies participating in TALIS. Overall, principals in Brazil, Colombia and Viet Nam expressed the highest level of shortages: at least 8 out of the 15 proposed issues were rated as key hindrances by 50% of school principals or more, most likely reflecting severe shortages and financial constraints in lower secondary education in those systems. But on resource shortages identified by principals, there is no systematic clustering of countries and economies along the lines of education expenditure or GDP.[36]

299. "Shortage of support personnel", the top priority identified by principals, was mentioned by less than 10% of school principals in Bulgaria, Iceland, Lithuania, the Netherlands, Norway, the Russian Federation, Shanghai (China), Singapore, Slovenia and Sweden, despite very different levels of education expenditure across these countries and economies (OECD, 2018$_{[15]}$). But more than 50% of principals reported this resource shortage in Brazil, Colombia, Italy, Portugal, Saudi Arabia, South Africa and Viet Nam.

300. "Shortage of teachers with competence in teaching students with special needs", the second-highest resource shortage on average across the OECD, was cited by over 70% of principals in France, and by 50% to 70% of principals in Belgium,[37] Brazil, Colombia, Saudi Arabia, South Africa and Viet Nam, but by less than 15% in Alberta (Canada), Austria, Finland, Georgia, Iceland and the Russian Federation.

301. Large differences across countries are also found with respect to the "shortage or inadequacy of time for instructional leadership". It was cited by over 50% of principals in Belgium, Colombia, Italy, Portugal and Viet Nam, but less than 15% of principals in Bulgaria, England (United Kingdom), Estonia, Georgia, Mexico and Singapore.

302. Aside from Brazil, Colombia and Viet Nam, which face widespread resources shortages in most dimensions examined by TALIS, some other severe country-specific shortages (cited by about 50% of principals or more) include:

- for material resources issues: shortages or inadequacy of physical infrastructure (in Italy, Portugal and Saudi Arabia), instructional space (in Israel), and digital technology for instruction (in Portugal and Romania), as well as insufficient Internet access in Mexico
- for human resources issues: shortages of teachers with competence in teaching students with special needs (in Belgium), in teaching students in a multicultural or multilingual setting (in Italy), and in teaching both students with special needs and students from socio-economically disadvantaged homes (in France) (Table BMUL.NO.SCH_RES).

Box 5.2: School resources issues from primary to upper secondary education

Across OECD countries and economies participating in TALIS, the three top resource-shortage issues reported by lower secondary principals are shortage of support personnel (33%), shortage of teachers with competence in teaching students with special needs (32%) and shortage or inadequacy of time for instructional leadership (32%). Principals at the primary level tend to report the same top three resource issues in most of the 13 countries and economies with available data for ISCED 1 and 2.

In upper secondary education, in the 11 countries and economies with available data for ISCED 2 and 3, the reported resource issues tend to be the same as at the lower secondary level overall. In a few countries, including Denmark, Portugal and Viet Nam, the reported shortage of support personnel and shortage or inadequacy of physical infrastructure is lower in upper secondary schools than in lower secondary schools by more than 10 percentage points. The latter resources issue is also less often mentioned in Sweden.

5.5.2 Teachers' views on priority areas for intervention and additional spending in education

303. As a complement to principals' reports on resources issues that hinder their school's capacity to provide quality instruction, TALIS 2018 also asks teachers, for the first time, what they think should be the priority areas for intervention and additional spending in education. This is an indirect way to identify the major resources issues. As frontline actors of education systems, teachers are particularly well positioned to report on resources issues that directly affect their daily work. It is, therefore, important for policy makers to rely on the professional voice of

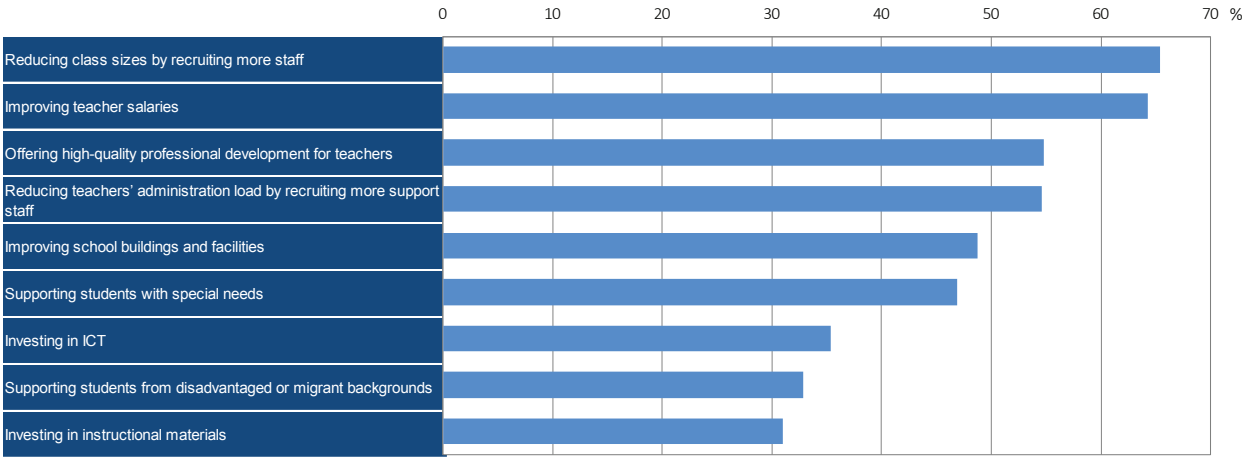
teachers to inform policy on resources needs within the education sector, and to better understand not only what teachers believe should be priority areas for intervention and additional spending, but also what factors shape these beliefs.

304. TALIS 2018 makes it possible, for the first time, to explore resources issues from the perspective of teachers. It asks them to rate the importance of a number of priorities if the education budget were increased by 5%. For each priority they are asked if it is "of low importance", "of moderate importance" or "of high importance". To avoid the dilemma of forcing teachers to choose among competing issues, they had the option of rating all issues as of "high importance". Nevertheless, it is possible to get a sense of the most prominent resources issues by examining the proportion of teachers in each country that identified each issue as an area "of high importance", as well as the top three issues they most often reported as high priorities.

305. In 2018, on average across the OECD, the number one spending priority reported by teachers was "reducing class sizes by recruiting more staff" (rated of high importance by 65% of teachers), followed by "improving teacher salaries" (64%), "offering high-quality professional development for teachers" (55%), and "reducing teachers' administration load by recruiting more support staff" (55%). All of these four issues are rated of high importance by over half of the teaching workforce on average in the OECD. By contrast, "improving school buildings and facilities", "supporting students with special needs", "investing in ICT", "supporting students from disadvantaged or migrant backgrounds" and "investing in instructional materials" are rated of high importance less often. However, these issues are still considered of high importance by 30% to 50% of teachers across the OECD.

Figure 5.12: Spending priorities for lower secondary education

Percentage of lower secondary teachers who reported the following spending priorities to be of high importance [1] (OECD average-31)



1. Respondents were not asked to prioritise; they had the possibility to attribute "high importance" to all spending priorities.
Values are ranked in descending order of the percentage of lower teachers who reported the following spending priorities to be of high importance.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.SPEND_PRIOR.

306. Another way to look at broad patterns is to examine, for each issue, the number of countries and economies for which it was among the top three priorities rated by teachers. With this approach, the key priority areas remain the same, but the order changes. "Improving teacher salaries" becomes the issue most often rated among the top three priorities (in the education systems of 39 participating countries and economies), followed by "reducing class sizes" (29 education systems), "reducing teachers' administration load" (24 education systems), "offering high-quality professional development for teachers" (23 education systems), "improving school buildings and facilities" (15 education systems) and "supporting students with special needs" (10 education systems).

307. The patterns of country-specific spending priorities shed light on issues that, according to teachers, require specific attention from policy makers. Indeed, while the number one spending priority[38] in the bulk of participating countries and economies, according to teachers, is "improving teacher salaries" (in 21 countries) and "reducing class sizes by recruiting more staff" (in 17 countries), teachers in some education systems have selected other issues as their

number one priority. Country-specific issues of high importance to the profession include: "offering high-quality professional development for teachers in Brazil, Chile, Colombia, Mexico and Slovenia;[39]; "improving school buildings and facilities" in Italy, Saudi Arabia and Turkey; and "reducing teachers' administration load by recruiting more support staff" in Australia. In Italy, teachers' ratings on the importance of "improving school buildings and facilities" are consistent with principals' emphasis on the "shortage or inadequacy of physical infrastructure". This could be related to the sequence of earthquakes in Central Italy in 2016-17, the school year preceding the survey. It damaged a number of schools and highlighted the vulnerability of existing school buildings (Di Ludovico et al., 2018[103]).

308. The spending priority on "improving teacher salaries" deserves scrutiny. Indeed, this priority was rated highly by teachers in a majority of participating countries and economies. But this is not the case everywhere. In Australia, Austria, Belgium (and the Flemish Community), Denmark, Slovenia and Spain, "improving teacher salaries" was rated of high importance by less than half of the teachers overall,[40] and it does not figure in their top three priority areas for additional spending. Interestingly, this group of countries is characterised by teacher salaries that are very close to the salaries of other tertiary-educated workers. This could explain the lower share of teachers reporting improving salaries as a spending priority of high importance. This finding suggests that teachers may consider a range of factors in forming their priorities, including how their salary levels compare to those of their peers with similar education.

309. The availability of internationally comparable data on teachers' salaries relative to those of other tertiary-educated workers is not sufficiently widespread to allow more systematic examination of this issue. Instead, to compare the purchasing power of teachers' statutory earning across countries, data on teachers' statutory starting salaries are used, expressed in terms of purchasing power parity (PPP) (OECD, 2018[15]). Examining teachers' salary levels in different countries and economies and the proportion of teachers who rated improving teacher salaries as a priority of high importance helps to better understand why teachers prioritise salary increases. The share of teachers who rate salary increases as highly important tends to be inversely proportional to the level of statutory starting salaries in their country (the linear correlation coefficients amounts to 0.75). In other words, the lower the level of statutory teaching salaries in a country (in PPP), the more teachers consider teachers' salaries a priority of high importance. The same relationship holds when looking at levels of salaries after 15 years of experience or at the top of the salary scale. This pattern and the strength of the relationship again suggests that teachers may consider a range of factors when rating priority areas for additional spending, including the purchasing power and standard of living that salary levels grant, and how these compare internationally. Teachers seem more likely to prioritise salary increases when their standard of living is lower by international standards.

310. The examination of teachers' propensity to prioritise salary increases across different school locations confirms that standards of living and purchasing power are likely to be important factors in a teacher's likelihood to report salary increases as an important spending priority. Indeed, in a third of the countries and economies with available data, teachers working in cities (where housing prices and the cost of living are typically higher than in rural areas) display a higher propensity to report salary increases as "highly important" than their peers working in rural areas.[41] This issue of regional disparities in teachers' standards of living is particularly acute in education systems where teachers' salary levels are set centrally, according to a system-level scale that does not take into account regional disparities in living expenses. Issues of teachers' contractual conditions and compensation will be examined in more depth in *Teachers and School Leaders: Valued Professionals*, Volume II of the TALIS 2018 international report, to be published in 2020.

311. School context could be another driver of teachers' propensity to prioritise "improving teacher salaries" in some countries and economies. In Belgium, Denmark and the United Arab Emirates for instance, teachers working in schools with larger concentrations of students with special needs report improving salaries as a priority less often than their peers working in schools with fewer such students. Likewise, teachers working in schools with larger concentrations of students from socio-economically disadvantaged homes in Hungary, Sweden and the United Arab Emirates are less likely to report improving salaries as a high priority than their peers working in more advantaged schools,[42] while the opposite pattern is observed in Australia and the United States.

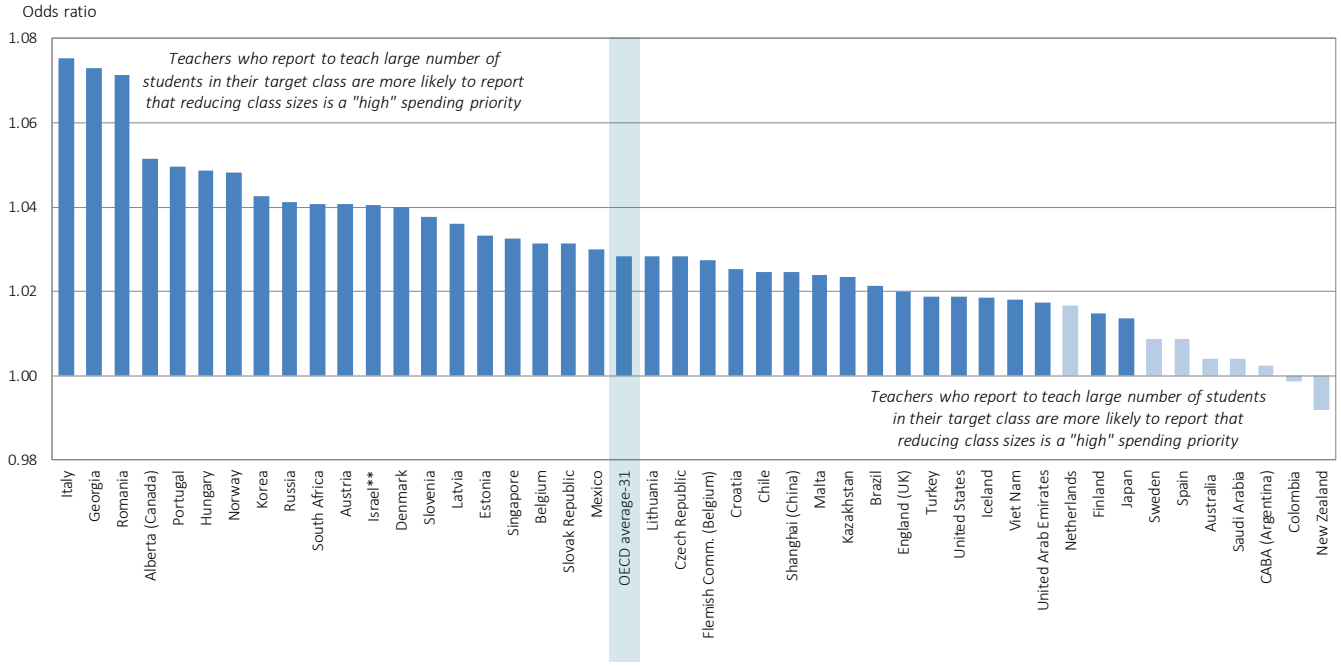
312. Motivational aspects could be another driver of teachers' propensity to prioritise "improving teacher salaries", whereby teachers whose motivation to join the profession was based on stronger social-utility incentives may be less likely to prioritise improving salaries than those whose motivation to join the profession was more driven by personal-utility factors (Watt et al., 2012[104]; Watt and Richardson, 2008[105]). Logistic regression analyses were conducted to examine how motivations to join the profession are related to teachers' propensity to report improving salaries as a high priority. They show that teachers who report that the teaching schedule was an important motivation to join the profession are also more likely to report improvement in teacher salaries as a high spending priority in almost half of the countries and economies participating in TALIS. Teachers who found it important that teaching offered a steady career path are also more likely to consider salary increases as important in 12 countries and economies participating in TALIS. These findings tend to support the notion that teachers who valued the economic characteristics and the working conditions of the job when they became teachers are also logically more prone to seek teacher salary increases.

313. Teachers' propensity to report "reducing class sizes by recruiting more staff" as a spending priority of high importance also deserves close examination, as this is the issue most commonly reported as a priority. First of all, it is noteworthy that, while reducing class sizes is reported as teachers' number one priority in 17 participating countries and economies and one of the three top priorities in 29 education systems, this aspect of school resources – while rated highly by teachers in general – is not among the top three issues reported of high importance by teachers in Brazil, CABA (Argentina), Chile, Colombia, Croatia, Estonia, Georgia, Hungary, Kazakhstan, Latvia, Mexico, Romania, Saudi Arabia, the Slovak Republic, Turkey, the United Arab Emirates and Viet Nam.

314. Teachers' propensity to consider reducing class sizes as a high spending priority may well be related to their personal teaching conditions, in particular to the size of the classes they teach. Regression analyses show that, as can be expected, teachers who teach larger classes[43] are more likely to report reducing class sizes as a spending priority of high importance (Figure 5.13). This positive relationship holds true on average across the OECD and also for about three-quarters of all countries and economies participating in TALIS, after controlling for classroom composition and teacher characteristics.[44] Exceptions to this are Australia, CABA (Argentina), Colombia, Croatia, Finland, the Netherlands, New Zealand, Saudi Arabia, Spain and Sweden. As several of these countries and economies implement policies aiming at channelling more teachers to disadvantaged schools (Bénabou, Kramarz and Prost, 2009[106]; Clotfelter et al., 2008[107]; Dieterle, 2015[108]; Jepsen and Rivkin, 2009[109]; Karsten, 2006[110]; OECD, 2018[111]; OECD, 2005[28]), it may be that teachers have opted to signal other areas on which to spend any additional budget allocated to the education sector.

Figure 5.13: Relationship between reducing class sizes as a spending priority and class size

Likelihood of reducing class sizes reported as a "high" spending priority related to class size [1 2 3 4 5]



Notes

The OECD average corresponds to the arithmetic mean of the estimates of the OECD countries and economies that participate in TALIS, with adjudicated data.

In the United States, gender imbalances are less pronounced in science, computers, mathematics, technical and vocational fields.

Bulgaria, Croatia, the Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Lithuania, the Russian Federation, the Slovak Republic and Slovenia.

What matters to students' psychological and social well-being is not cultural differences per se, but rather the way they are perceived and responded to by others (e.g. negative attitudes towards minority groups), or the way, students themselves deal with their cultural differences, irrespective of the friendliness of the surrounding climate.

Effective teaching was measured in this study through a classroom observations checklist instrument based on a framework for effective teaching that incorporated principles of social constructivism.

In the following analyses, a 30% threshold is used to compare schools and classrooms with more than 30% of students from socio-economically disadvantaged homes with schools with up to 30% of such students. Lower thresholds are used with regard to students with migrant backgrounds, students whose first language is different from the language(s) of instruction, students with special education needs (above 10% versus up to 10%) and students who are refugees (above 1% versus none) to account for smaller overall intake of these types of students.

The Convention on the Rights of Persons with Disabilities, the Salamanca Declaration, the Educational for All Movement and the Millennium Development Goals have established goals for improving access to education for children with disabilities. Most recently, education for persons with disabilities is specifically referenced in UN SDG Goal 4, Target 4.5: "By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations".

Questions about the share of immigrant students or students with an immigrant background in the school and in the classroom were added to the TALIS 2018 questionnaires relatively late in the design process and were, therefore, not field-trialled. Although analysis of the main survey data did not reveal any particular issue with these questions, they must be interpreted with caution.

For the purpose of these trends analyses, only statistically significant differences greater than 5 percentage points in the proportion of teachers teaching a classroom with a given composition are reported, in order to emphasise deep and rapid changes in the classroom composition. Other education systems often face trends that are similar but of a lower order of magnitude or not statistically significant.

Linguistic diversity can evolve due to an influx of foreign migrants or refugees and/or, increased regional mobility in multilingual societies, but also as a result of changes in education policies that have an impact on linguistic grouping of students in schools.

In the case of Alberta (Canada), caution is required when interpreting these data, given large standard errors relative to other countries.

Denmark, the Slovak Republic and Sweden are in the top 20 least unequal countries (as measured by the Gini index, below 30 for the three of them), followed by Japan (Gini index: 32) and Viet Nam (Gini index: 35).

As this information derives from principals' reports, the number of observations per country is too low to undertake regression analyses on the factors associated with equity-related policies and practices in schools.

Source: OECD, TALIS 2018 Database.

In Finland, one explanation for this pattern is that involvement of organisations external to the school to support multicultural activities is less common than in many other countries, and there are not many organisations doing such work.

The relevant section of the TALIS questionnaire includes questions about "school policies and practices concerned with diversity, with an emphasis on cultural diversity". It states that: "'Diversity' refers to the recognition of and appreciation for differences in the backgrounds of students and staff. In the case of cultural diversity it refers most notably to cultural or ethnic backgrounds."

The scale of self-related efficacy in multicultural classrooms has only reached metric invariance, suggesting that comparisons across countries at item level need to be interpreted cautiously (TALIS 2018 Technical Report).

In both the French and Flemish communities of Belgium, the high reports from principals might reflect the national context, with media reports of hidden violence at school in recent years, and extensive training of principals and teachers as a result to identify bullying and act effectively upon it. It is possible that the anti-bullying policies put in place have heightened principals' awareness of these issues.

In Australia, insufficient response rates by principals affect comparability of the data, and the figures need to be interpreted with caution.

In Norway, a possible explanation may be the emphasis of teachers' professional development activities on classroom management and classroom climate over the last years.

After controlling for teacher characteristics, CABA (Argentina) no longer belongs to the list of country exceptions.

One possible explanation for this pattern could be that resource shortages are only reported when they are perceived to affect instruction. If principals in countries with less economic means have never had certain resources, it would be hard for them to say whether or not having those resources affects instruction, which may obfuscate the relationship between GDP/education expenditure and shortages.

In the French Community of Belgium, students who did not pass their primary certificate are formally identified with learning difficulties (although they do not suffer from any kind of disabilities) and are provided extra support and additional human and financial resources for their lower secondary school. Teachers and principals are likely to have associated these student profiles as special-needs students in the TALIS survey, resulting in a large overestimation of this group.

This ranking of spending priorities reported in the chapter does not account for any statistical testing of significant differences between the ranks.

Chapter 5 shows that these countries also display high levels of participation in professional development.

Alberta (Canada) and Finland also have less than half of their teachers rating salary improvements as of high importance, but this issue is nevertheless in their top three priority areas for additional spending.

The difference is statistically significant and exceeds 5 percentage points in Belgium, Croatia, the Czech Republic, Estonia, Finland, Georgia, Hungary, Italy, Kazakhstan, Norway, the Slovak Republic and Turkey.

The difference in favour of teachers working in schools with large proportions of students from socio-economically disadvantaged homes exceeds 5 percentage points in all three education systems.

In the analyses, class size is measured by the number of students enrolled in a particular class (referred to as target class) that the teacher was asked to identify and describe.

The Changing Landscape of Teaching

There are very few countries with a significant relationship between classroom composition (measured by the concentration of students whose first language is different from the language(s) of instruction, special-needs students, students with behavioural problems, students from disadvantaged homes, academically gifted students and students with a refugee status) and teacher's propensity to report reducing class size as a spending priority.

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Chapter 6:
Attracting and Effectively Preparing Candidates

This chapter examines the process through which in-service teachers were attracted to the profession and describes how teachers and school leaders were prepared for their roles. After analysing the prevalence and features of training programmes identified as effective in the research literature, it examines the relationship between the features of these programmes and a range of quality indicators, including teachers' sense of preparedness, self-efficacy in teaching and job satisfaction. Adopting a model that considers teacher education as a continuum, the chapter also explores the support provided to new teachers in their early career years.

Highlights

- Across the OECD countries and economies that participate in TALIS, around 90% of teachers consider the opportunity to influence children's development and contribute to society to be a major motivation for joining the profession. Only 60% to 70% of teachers report that the financial package and working conditions of the teaching profession were important to them, but this share is higher in countries where teachers are highly valued in society and their economic status is better than that of other professions.
- On average across OECD countries and economies in TALIS, two out of three teachers report that teaching was their first choice as a career. While almost 70% of women report teaching as their first choice as a career, only 59% of men do so.
- Other than subject content, pedagogy and classroom practice, teachers' formal education and training tends to include instruction on student behaviour and classroom management (for 72% of all teachers across OECD countries and economies in TALIS), monitoring students' development and learning (70%), teaching cross-curricular skills (65%), teaching in a mixed-ability setting (62%) and use of ICT for teaching (56%). In comparison, teaching in a multicultural or multilingual setting (35%) is more rarely included as an element of teachers' formal education or training.
- School leaders have a higher level of educational attainment than teachers, with 63% of school leaders but only 44% of teachers holding a master's degree or equivalent, on average across the OECD countries and economies that participate in TALIS. However, only 54% of school leaders have completed a programme or course in school administration or principal training before taking up their position as principal, with the same share having completed an instructional leadership training programme or course.
- On average across OECD countries and economies in TALIS, novice teachers work one hour less per week in total than teachers with more than five years of experience.
- On average across OECD countries and economies in TALIS, only 38% of teachers participated in either formal or informal induction activities in their first employment. However, teachers who took part in some kind of induction activity tend to feel more confident in their teaching abilities and more satisfied with their job.
- While school principals generally consider mentoring to be important for teachers' work and students' performance, only 22% of novice teachers have an assigned mentor, on average across OECD countries and economies in TALIS.

6.1 Introduction

315. Many countries grapple with the difficulties of attracting individuals, particularly highly-skilled and motivated candidates, to become teachers and school leaders and training them adequately for their roles. Yet, there is evidence that certain features of initial teacher-training systems, such as programme duration, certification or content, do make a difference in teaching quality and student learning (Darling-Hammond, 2000[1]; Hanushek, Kain and Rivkin, 1998[2]). It is thus crucial to explore the features of selection (and self-selection) of future teachers and training systems for teachers and principals to help countries to overcome these difficulties.

316. The second part of this volume, which begins here, examines how initial training for teachers' and principals (Chapter 6) and in-service training (Chapter 7) can drive the success of teaching and schooling. This is done by analysing the prevalence and features of training programmes identified as effective in the research literature and the relationship between the features of such programmes and a range of quality indicators, including teachers' sense of preparedness, self-efficacy in teaching and job satisfaction.

317. This chapter focuses on the mechanisms available to support lifelong learning for teachers and school leaders throughout their careers. In line with the recent OECD report *Flying Start – Improving Initial Teacher Preparation Systems*, this chapter adopts a model that considers teacher education as a continuum (König and Mulder, 2014[3]; Roberts-Hull, Jensen and Cooper, 2015[4]), and examines how teachers new to the profession are supported in their early career years, after initial recruitment, selection and training. The chapter also expands the relatively limited knowledge about the prevalence and features of initial training for principals, in a cross-country comparative perspective.

6.2 What motivated teachers to choose the profession?

318. A recent OECD report explored system-level aspects of teacher policies that are common and, in some cases, unique to countries and economies with high performance in the OECD Programme for International Student Assessment (PISA) (OECD, 2018[5]). The report analysed indicators on teachers' careers and teacher-appraisal systems from *Education at a Glance* and expanded to partner countries and economies participating in PISA 2015, through a special system-level data collection (OECD, 2018, pp. 42-43[5]). It revealed that high-performing countries often use different instruments to select teachers, including competitive examinations for admission, pre-service teacher education to start teaching and successful completion of a probation period. The same diversity of instruments is found among TALIS countries and economies – see Tables II.6.56 and II.6.57 in *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools* (2016[6]).

319. However, only a few countries seem able to attract into teaching students who perform in the upper part of the school achievement distribution (Blömeke, Kaiser and Lehmann, 2010[7]; Tatto et al., 2012[8]; Golsteyn, Vermeulen and de Wolf, 2016[9]). In PISA 2015, the typical profile of students who expected to work as teachers later in life varies across countries. However, in many countries, students who expect to work as teachers have poorer mathematics and reading skills than those who expected to work in other professions that, like teaching, require at least a university degree (OECD, 2018, p. 130[10]). While factors that shape teenagers' career expectations greatly determine the overall pool of future candidates to enter the teaching profession, PISA results still need to be regarded cautiously, as they are based on the expectations and proficiency of 15year-old students rather than those of actual or candidate teachers. One paper has actually used available data from international adult skills surveys to examine the cognitive skills of teachers. Using data for countries that have participated in either the Adult Literacy and Lifeskills (ALL) survey or the OECD Programme for International Assessment of Adult Competencies (PIAAC), Golsteyn, Vermeulen and de Wolf (2016[11]) find that the literacy and numeracy skills of primary and secondary teachers are higher than the average for the overall population and not so different from the proficiency of the average tertiary graduate. Some researchers also looked at whether the cognitive skills of teachers, as measured by PIAAC, can explain between-country differences in student achievement, as measured by PISA, and they found a strong positive association between teachers' skills and students' outcomes in PISA (Hanushek, Piopiunik and Wiederhold, 2014[12]; Meroni, Vera-Toscano and Costa, 2015[13]).

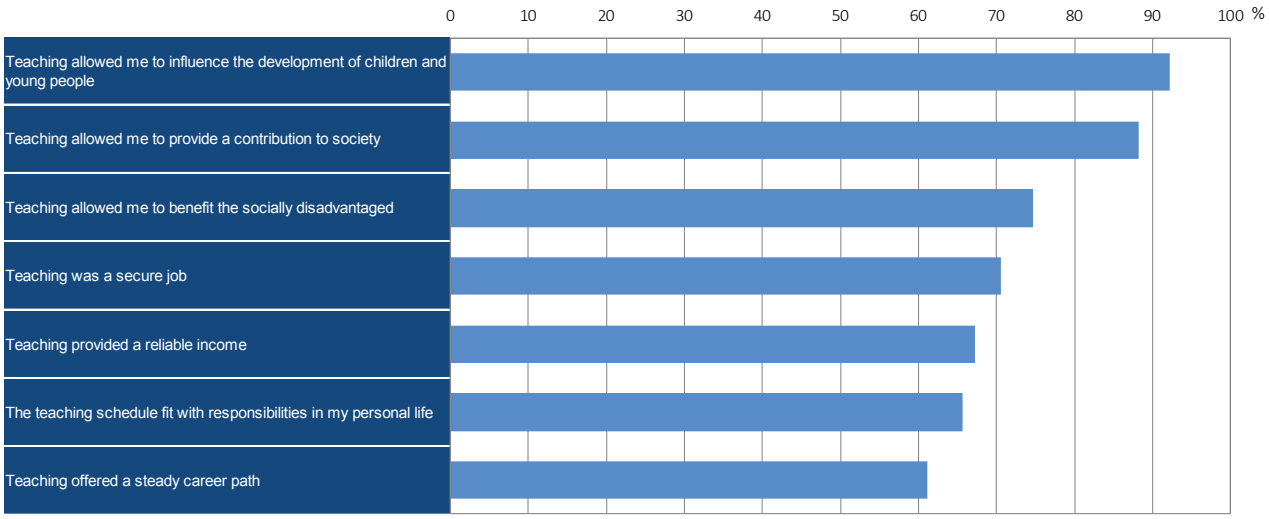
320. Beyond the system-level approaches for selecting candidates, TALIS can help to better understand the self-selective process through which teachers choose their profession. This step can actually be considered prior to actual teacher selection or recruitment. Logically, individuals must be attracted by a job to apply for it, although the information known about the selection process may affect an individual's occupational interests. Exploring individuals' motivations to become teachers helps to shed light on the aspects of teaching that make the profession attractive. This can help policy makers to design recruitment campaigns or teacher policies to enhance the attractiveness of the profession. However, TALIS data is limited for this purpose, as TALIS questionnaires are administered only to in-service teachers. They do not reach candidates who fail to enter the profession or those who leave it after some initial experience.

Attracting and Effectively Preparing Candidates

321. TALIS asks teachers how important seven factors were in their motivation to become a teacher, asking them to mark one choice among four options: "not important at all"; "of low importance"; "of moderate importance"; or "of high importance". The most important motivations reported by teachers pertain to a certain sense of self-fulfilment through public service. On average across the OECD[45], around 90% of teachers consider it of moderate to high importance that "teaching allowed [them] to influence the development of children and young people" (92%) and "teaching allowed [them] to provide a contribution to society" (88%). In addition, 75% of teachers report that "benefitting the socially disadvantaged" was a motivating factor of moderate or high importance in their decision to become a teacher. The factors reported least often pertain to the economic characteristics and working conditions of the profession: 1) "teaching offered a steady career path" (61% of teachers across the OECD reported this as motivating factor of moderate or high importance); 2) "the teaching schedule (e.g. hours, holidays, part-time positions) fits with responsibilities with my personal life" (66%); 3) "teaching provided a reliable income" (67%); and 4) "teaching was a secure job" (71%) (Figure 6.1).

Figure 6.1. Motivation to become a teacher

Percentage of lower secondary teachers who report that the following elements were of "moderate" or "high" importance in becoming a teacher (OECD average-31)



Values are ranked in descending order of the importance of the motivation for becoming a teacher.
Source: OECD, TALIS 2018 Database, Table BMUL.TCEXP.MOTIV.

322. There is little variation across countries in the most frequently reported motivating factors to join the teaching profession. Influencing the development of children and young people is the most frequently reported factor in 37 countries and economies and the second most frequently reported factor in 10 countries. But there are some notable exceptions, countries where the economic and working conditions of teachers' jobs weigh particularly heavily in the decision to become a teacher. Job security is the most cited factor by teachers in Latvia (93% of teachers find it of moderate or high importance in deciding to become a teacher) and the second most cited factor in Japan (86%) and Korea (88%). That teaching offered a steady career path (95%) and a secure job (93%) are also as frequently reported as more altruistic motives by teachers in Shanghai (China). Finally, that teaching provided a reliable income and offered a steady career path are the second and third most cited factors by teachers in Finland (reported by about 75% of teachers). These few exceptions are in countries where the teaching profession is typically highly valued in society and teachers' economic status is better than that of other professions (OECD, 2014[14]). Interestingly, these countries and economies also are among the top-performing systems in PISA. All this suggests that high performing systems have developed both an efficient workforce and an economically attractive profession, factors that work together to attract quality candidates to the ranks of future generations of teachers. The challenge for policy makers is to understand how to initiate this positive spiral of change. The second volume of this report will delve deeper into some of these issues to better understand what is distinctive about other aspects of teacher professionalism in high-performing systems.

323. Motivations to become a teacher do not differ greatly between novice teachers (teachers with up to five years of teaching experience) and more experienced teachers (those with more than five years of experience). On average in OECD countries and economies, novice teachers are more likely to consider benefitting the socially disadvantaged as a factor of moderate or high importance. This holds true in 13 countries and economies, particularly in European Nordic countries (Finland, Iceland, Norway), Estonia and New Zealand, where there is a difference of 10 or more percentage points between the shares of novice teachers and experienced teachers citing the importance of benefitting the socially disadvantaged. Across the OECD, novice teachers are less likely to consider job security a factor of moderate or high importance. This holds true in 17 countries and economies, especially in Portugal, where 71% of experienced teachers and only 39% of novice teachers report job security as an important factor.

324. These differences between novice and experienced teachers may result from generational effects, whereby those who grew up before the years of mass unemployment and mass migration are less concerned with benefit to the socially disadvantaged than those who grew up more recently, for whom unemployment and diversity have always been part of their experience (Heath and Richards, 2016[15]). Given that teachers are asked to respond retrospectively about their initial motivations for joining the profession, the gap should not result from any age effect, but it may be the case that older people with additional family responsibilities retrospectively value job security more highly. It may also result from a period effect, whereby there is less and less job security in the education sector. Faced with teacher shortages, some education systems (particularly in developing countries) have accepted lower certification and educational requirements, eliminated teacher tenure, hired inexperienced teachers on a contract basis and curtailed teacher salaries to fill vacant teaching positions (Chudgar, Chandra and Razzaque, 2014[16]). By contrast, some other education systems, such as the Netherlands, may have improved contract modalities by offering higher salaries or fixed-term contracts.

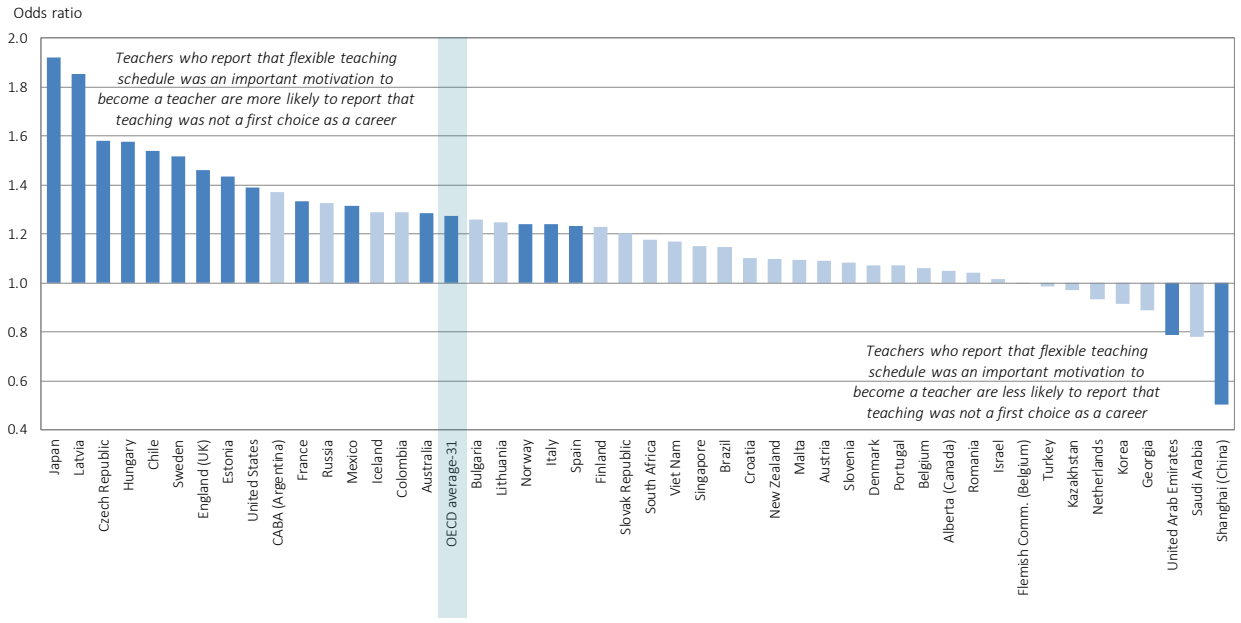
325. TALIS also asks teachers whether teaching was their first choice as a career, defined as having a paid job that one regarded as likely to form one life's work. On average across the OECD, two out of three teachers did report that teaching was their first choice as a career. But there are important cross-country variations. Fewer teachers report teaching as their first career choice in English-speaking countries, including England (United Kingdom) and the United States (both 59%), Australia (58%), New Zealand (55%), and some European countries, including Sweden and Finland (both 59%), the Netherlands (53%), in Ciudad Autónoma de Buenos Aires (hereafter CABA) (Argentina) (53%), as well as in South Africa (49%). More teachers report teaching as their first career choice in the eastern part of the globe, including Viet Nam (93%), Georgia (89%), Shanghai (China) (87%), Saudi Arabia (83%), Japan (82%) and Korea (80%), but also in Portugal (84%) and Slovenia (82%). These cross-country variations may reflect institutional differences in the selection and certification processes of teacher candidates, with more selective and lengthy systems leading to higher shares of first vocations. They could also result from cultural differences in the way individuals view their working life and in national job markets, with possibly more flexibility and mobility across sectors in English-speaking and European Nordic countries and more stability in the eastern countries. The likelihood of reporting teaching as a first career choice also varies greatly by teacher gender. In almost all TALIS countries and economies, significantly fewer male teachers report teaching as their first career choice than their female counterparts. The largest gender differences are observed in Eastern European countries, especially in Estonia (41% of male teachers versus 69% of female teachers) and Latvia (55% versus 76%) . This global gender difference is consistent with that found in professional aspirations reported by 15-year-old students in PISA (OECD, 2018[5]). In 2006 and 2015, on average across OECD countries and economies, 15-year-old boys were less likely than girls to expect to work as teachers when they are 30 years old, suggesting that teaching was more often envisaged by girls as a first career choice than by boys.

326. Motivations to become a teacher differ depending on whether or not one considered teaching a first career choice. In quite a few countries and economies participating in TALIS, teachers whose main motivation to enter the profession is to have a steady career path or a secure job, to influence the development of children or to contribute to society, also tend to make teaching their first career choice. On the other hand, in around one-third of the countries and economies participating in TALIS, teachers for whom teaching was not a first choice tend to

be motivated by the work schedule of the profession (Figure 6.2). This suggests that later vocations are perhaps motivated by the possibility of better reconciling work life with the responsibilities of personal life.

Figure 6.2: Relationship between teaching as a career choice and motivation to become a teacher

Likelihood of teaching not a first choice career related to teaching schedule fitting responsibilities in personal life reported as of "moderate" or "high" importance to become a teacher [1 2]



1. Results of binary logistic regression based on lower secondary teachers' reports. The regression model also included six other explanatory variables referring to different motivations to become a teacher as well as controlled for the following teacher characteristics: gender and age.
2. An odds ratio indicates the degree to which an explanatory variable is associated with a categorical outcome variable. An odds ratio below one denotes a negative association; an odds ratio above one indicates a positive association; and an odds ratio of one means that there is no association

Note: Statistically significant coefficients are marked in a darker tone.

Countries and economies are ranked in descending order of the likelihood of teaching not a first choice as a career related to teaching schedule fitting responsibilities in personal life reported as of "moderate" or "high" importance to become a teacher.

Source: OECD, TALIS 2018 Database, REG.LOG.D_TCH2NDCH_MOTIV_v2.

327. Teachers' original desire to make teaching their chosen profession is also related to job satisfaction and reported self-efficacy. Regression analysis shows that, after controlling for teacher characteristics, such as gender and teaching experience, those teachers whose first career choice was teaching are also more likely to be satisfied with their job. The relationship holds in all but three countries participating in TALIS (Lithuania, Portugal and the United States). Similarly, irrespective of gender and teaching experience, teachers for whom teaching was their first career choice also tend to report higher self-efficacy in around two-thirds of countries and economies participating in TALIS. These findings suggest that there may be healthy self-selection mechanisms in these countries.

6.3 How ready are teachers for teaching?

328. Once motivated and selected into the teaching profession, future teachers need to be trained in the best possible manner to deliver quality teaching to their future students. Indeed, opportunities to learn during teacher education contribute to specific types of teacher knowledge. That knowledge has an effect on the teaching strategies adopted by teachers and the quality of their instruction (Blömeke, Gustafsson and Shavelson, 2015[17]), which are, in turn, significantly related to student achievement (Baumert et al., 2010[18]; Hill, Rowan and Ball, 2005[19]; Kersting et al., 2012[20]). A closer look at teacher education can help understand the outcomes of teacher education and where potential starting points for reforms may lie. We can regard opportunities to learn in teacher education as deliberately developed by educational policy makers and teacher education institutions to achieve the specific goals of an education system (Stark and Lattuca, 1997[21]). As such, specifications underpinning initial teacher education programmes reflect the particular visions of knowledge and skills that a country (or an education system) and its teacher education institutions expect teachers to have (Blömeke and Kaiser, 2012[22]; Schmidt, Blömeke and Tatto, 2011[23]).

6.3.1 Initial teacher education

329. TALIS can support the examination of multiple features of initial teacher education: the typical level of education attained by teachers and the elements included in it, as well as the sequence in which they are presented. To begin with, TALIS 2018 asks teachers about the highest level of formal education they have completed, using the 2011 International Standard Classification of Education (ISCED-2011; see Annex B for more details). The typical level of education attained by teachers varies slightly across countries. On average across OECD countries and economies, the majority of teachers report that they have completed a bachelor's degree or higher. On average across OECD countries and economies, 50% of teachers report a bachelor's degree or equivalent as their highest educational attainment (ISCED level 6)[46] (Figure 6.3). That is also the highest educational level completed by more than 75% of teachers in Alberta (Canada), Australia, Belgium (including the Flemish Community), Brazil, Chile, Denmark, Japan, Kazakhstan, New Zealand, Saudi Arabia, Shanghai (China), Turkey and Viet Nam. Another smaller share of teachers (44% in OECD countries and economies) report a master's degree or equivalent, including stronger specialisation and more complex content than a bachelor's degree (ISCED level ISCED level 7), as their highest level of educational attainment. More than 75% of teachers completed a master's degree as their highest level of education in Croatia, the Czech Republic, Finland, Georgia, Italy, Portugal and the Slovak Republic.[47] Across OECD countries and economies, 1.5% of teachers report holding a doctoral degree or equivalent (ISCED level 8), while the highest shares of teachers with doctoral degrees (4% or more) are observed in European countries: the Czech Republic, France and Italy. Doctoral degrees among teachers have risen over the past five years in many countries, including France, Italy, and Romania.

330. Finally, another 5% of teachers across the OECD report having completed at most a short-cycle tertiary education programme (ISCED level 5 and below). While the proportion of teachers with a short-cycle tertiary education (ISCED level 5)[48] as their highest level of formal education is negligible in most countries (less than 1%), the share exceeds 20% in a few countries and economies: Austria (35%), CABA (Argentina) (23%), Slovenia (23%), South Africa (56%) and Viet Nam (19%). The fact that the OECD identified four years as the most frequent duration of initial teacher education among countries and economies with high performance on PISA (OECD, 2018, p. 46$_{[5]}$) may suggest exploring the possibility of extending the duration and content of post-secondary studies for teacher-training programmes to at least four years. It seems that some systems are aware of this objective, as the share of teachers without a bachelor's or equivalent degree (ISCED level 5 and below) has decreased in many countries over the past five to ten years. For example, in 2007, Argentina increased compulsory initial teacher training from three to four years (Instituto Nacional de Formación Docente, 2007$_{[24]}$). In SA, the majority of teachers have either a diploma or bachelor degree qualification.

Figure 6.3: Highest educational attainment of teachers and principals

1. Education categories are based on the International Standard Classification of Education (ISCED-2011). ISCED levels 6 and 7 programmes are generally longer and more theory-based, while ISCED level 5 programmes are typically shorter and more practical and skills orie
2. ISCED level 5 includes bachelor's degrees in some countries.

Countries and economies are ranked in descending order of the percentage of lower secondary teachers whose highest level of formal education is either ISCED level 7 or ISCED level 8.

Source: OECD, TALIS 2018 Database, Table BMUL.NO.EDU_ATTAIN and Table BMUL.NO.EDU_ATTAIN_P.

331. Past research has identified the advantages and disadvantages of the concurrent model, the consecutive model and the co-existence of the two models of initial teacher education (Musset, 2010[25]). Concurrent programmes, where academic subjects are studied alongside educational and professional studies throughout the duration of the training, allow a more integrated learning experience, as pedagogical and subject-matter (content knowledge) training take place at the same time. But they allow little flexibility in entering the teaching profession, especially for those who have studied something other than education. Consecutive programmes offer specialised courses in pedagogy and in teacher education after completion of another degree in a subject. This allows more flexible entry into the teaching profession, coupled with weaker professional identity, giving teachers strong expertise in a given subject, but weaker knowledge in learning techniques and pedagogy in general. Having both concurrent and consecutive programmes can help to attract different profiles of individuals into the teaching profession, but they can also trigger extra costs for education systems (Musset, 2010[25]).

332. Teacher education programmes can vary greatly from one teacher education institution to another and from country to country (Blömeke, Kaiser and Lehmann, 2010[7]; Tatto et al., 2012[8]). TALIS asks teachers how they received their first teaching qualification. Across the 33 countries and economies that administered this optional question, most teachers reported having completed a regular concurrent teacher education or training programme that grants future teachers a single credential for studies in subject-matter content, pedagogy and other courses in education during the first period of post-secondary education. More than 75% of teachers completed a concurrent training programme in Belgium (including the Flemish Community), Finland, Hungary, Korea, Shanghai (China), the Slovak Republic, Turkey and Viet Nam, while fewer than 25% of teachers did so in Colombia, England (United Kingdom) and France. In these three countries, teachers most frequently received their qualification in a regular consecutive teacher education or training programme, which requires future teachers to complete two phases of post-secondary education: a first phase of university education with the focus on subject matter and a second phase with the focus on pedagogy and practicum. These programmes are mostly prevalent in English-speaking countries, including England (United Kingdom) (75% of teachers completed a consecutive training programme), Alberta (Canada) (53%) and Australia (47%) .

333. Consecutive programmes, which are less common than concurrent programmes, seem to recently be on the rise in many countries and economies, including Alberta (Canada), Croatia, Estonia, Hungary, Iceland, Romania, Saudi Arabia and the United Arab Emirates. In these countries, the share of teachers who completed a regular consecutive teacher-education programme in the five years prior to the survey is larger than the total share in the whole teacher population. This could potentially be a response to important teacher shortages, whereby teacher candidates who already hold a tertiary education degree in some subject are allowed to only enrol in the second phase of teacher studies with a strong focus on pedagogy and practicum. But increasing shares of teachers who graduated from a consecutive programme could also be the sign that more and more students postpone the time at which they need to make a clear career choice.

334. Some systems also offer fast-track or specialised education or training programmes.[49] These refer to pathways into a teaching job that are not regular teaching education or training programmes in terms of duration and/or content, but programmes designed for specific groups such as high-profile young graduates, second-career candidates, candidates with some teaching experience, or graduates with high levels of subject knowledge. Countries, where the share of teachers receiving their first qualification from such programmes is greater than 10%, are the United Arab Emirates (17%) and Colombia (11%).

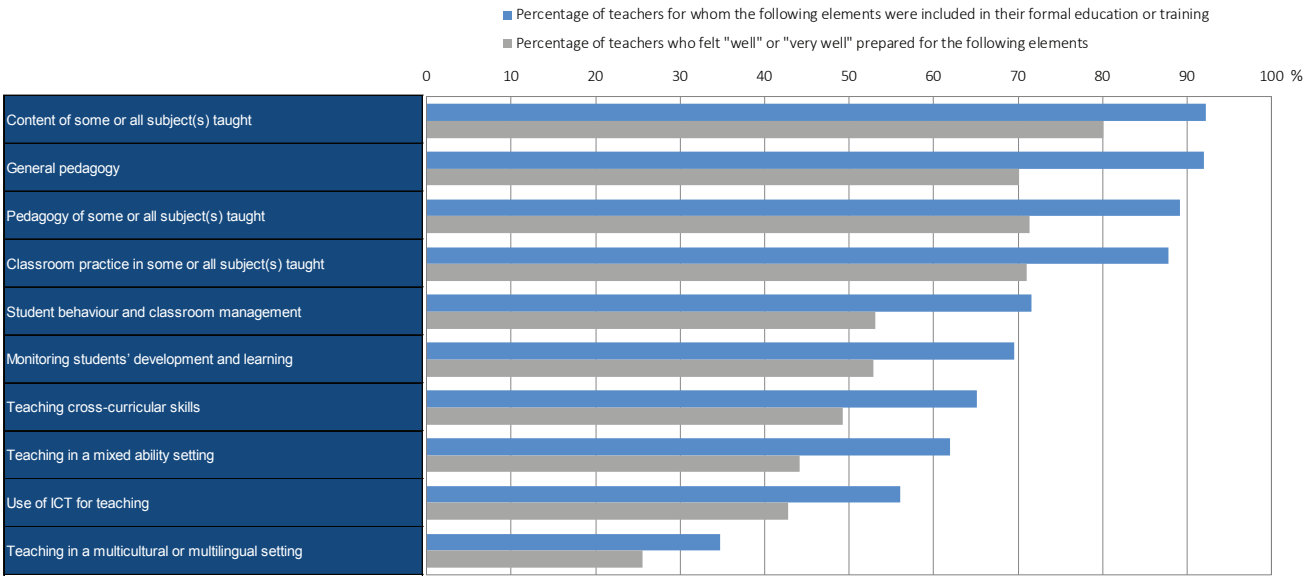
335. Across all countries and economies participating in TALIS, fewer than 10% of teachers completed subject-specific education only, except in Romania (23%), Latvia (22%), France (19%), Georgia (18%), Lithuania (16%), Mexico (14%) and CABA (Argentina) (13%). Finally, fewer than 5% of teachers have not received any formal teacher education or training in all countries with data available, except Saudi Arabia (10%), Mexico (8%) and Estonia (5%) . High shares of teachers in the last two categories (subject-specific education only and no formal education) are particularly worrying, because these teachers start their jobs without being prepared for the profession. Past studies have highlighted the importance of being trained in subject-related pedagogical knowledge and in general pedagogy for delivering quality instruction and for student learning (Guerriero, 2017[26]). In addition, a mandatory teaching practicum was identified in PISA as a common feature of initial teacher preparation in all high-performing and equitable education systems except Macao (China) (OECD, 2018, p. 50[5]).

336. TALIS also asks teachers about the elements included in their formal education or training. Subject-content courses deliver the body of deep knowledge that teachers need to create and facilitate effective teaching and learning environments for all students and develop their competences (Guerriero, 2017[26]), to present content to learners in a meaningful way and to connect learning topics to one another, as well as to each student's prior knowledge and future learning objectives (Cochran-Smith and Zeichner, 2005[27]; Wilson, Floden and Ferrini-Mundy, 2001[28]). Across the OECD, almost all teachers (92%) report that their formal education or training included content of some or all the subjects they teach (Figure 6.4). However, 10% to 20% of teachers did not receive training in subject content in Alberta (Canada), Belgium (including the Flemish Community), Iceland, the Slovak Republic and Turkey. [50]

337. Knowing the content provides only a foundation for teaching. Student achievement is higher when a strong content background is combined with pedagogical and practical training (Clotfelter, Ladd and Vigdor, 2007[29]). Preparation that links content knowledge to an understanding of how learners acquire knowledge, how to teach students who are diverse with respect to achievement, motivation, socio-economic background or language background, and how to use a wide array of instructional strategies was found to be effective (Constantine et al., 2009[30]; National Research Council, 2010[31]). Pedagogy refers to the art and science of teaching, and thus pedagogical competence refers to knowing how to teach, rather than knowing the content one is expected to teach. General pedagogical competence is what teachers need as basic knowledge of how to teach, and is the competence needed more often in primary school. Specific pedagogical competence refers to the knowledge on how to teach a particular subject or a particular group of students. Pedagogical content knowledge links general pedagogical knowledge and content knowledge (Shulman, 1986[32]). Across the OECD and in all countries participating in TALIS, almost all teachers received training in general pedagogy and in the pedagogy of the subjects they teach (Figure 6.4). However, general and content-specific pedagogy is less prevalent in Southern European countries, where fewer than 75% of teachers so report, including France, Italy and Spain. However, some countries, such as Italy since the academic year 2018/19, have initiated important reforms to include more training in pedagogy in their teacher education programmes (Ministero della Giustizia, 2017[33]).

Figure 6.4: Content of teacher education and sense of preparedness for teaching

Results based on responses of lower secondary teachers



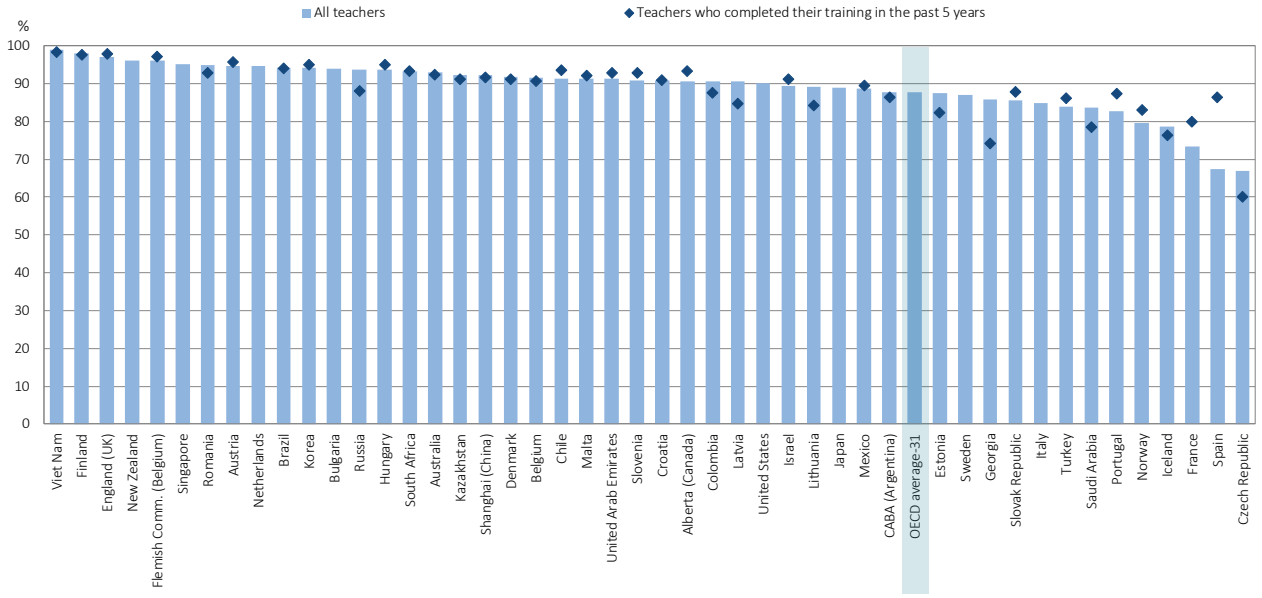
Values are ranked in descending order of the percentage of lower secondary teachers for whom the following elements were included in their formal education or training.
Source: OECD, TALIS 2018 Database, Table BMUL.QUAL.ITE_ELEM and Table BMUL.QUAL.ITE_PREP.

338. The teaching methods that future teachers experience during initial teacher education may also shape the way they will teach. In particular, research highlights the importance of having opportunities to engage in a teaching practicum that requires planning lessons or analysing student work, rather than just listening to lectures (Boyd et al., 2009[34]) and a number of countries have recently reformed their initial teacher education systems to make the teaching practicum a mandatory element – such as Australia or Estonia (see OECD, forthcoming). Classroom practice in some or all subjects taught by teachers was included in the formal education and training of about 90% of teachers, on average across OECD countries and economies. More than 95% of teachers in England (United Kingdom), Finland, the Flemish Community of Belgium, New Zealand, Singapore and Viet Nam completed such a teaching practicum (Figure 6.5), while fewer than 75% of teachers did so in the Czech Republic, France, and Spain.

339. Examining the responses of teachers who completed their formal teacher education and training in the last five years and comparing them to those of the whole population sheds light on the recent changes in teachers' formal training and education. A worrying downward trend in the share of teachers receiving practical training is observed in some countries, especially in the Czech Republic, Georgia, Estonia and the Russian Federation. By contrast, an increase in the share of teachers trained in classroom practice is found in some countries, particularly in France, Norway and Spain.

Figure 6.5: Teacher training in classroom practice

Percentage of lower secondary teachers for whom classroom practice in some or all subject(s) taught were included in their formal education or training, by year of completion



Countries and economies are ranked in descending order of the percentage of teachers who felt "well" or "very well" prepared for classroom practice in some or all subject(s) taught
Source: OECD, TALIS 2018 Database, Table BMUL.QUAL.ITE_ELEM.

340. An important consideration for examining the quality of teachers' credentials is to look at the comprehensiveness of teacher education and training programmes. To this end, two indicators are considered: the percentage of teachers trained in all three core elements of a quality teaching preparation (content, pedagogy and classroom practice of some or all subject(s) teachers teach) and the average number of elements included in teachers' formal education or training. On average across the OECD, 79% of all teachers report that they were trained in all three core elements (content, pedagogy and classroom practice of some or all subject(s) teachers teach). However, this share amounts to only 48% in Spain and remains below 70% in the Czech Republic, France, Iceland and Italy. Teachers report that they were trained in around seven of the ten elements listed in the questionnaire, on average across the OECD. Through the lens of this indicator as well, teachers in France and Spain report having been trained in fewer aspects than in other countries, with an average number of elements including in their formal education or training comprised between five and six.

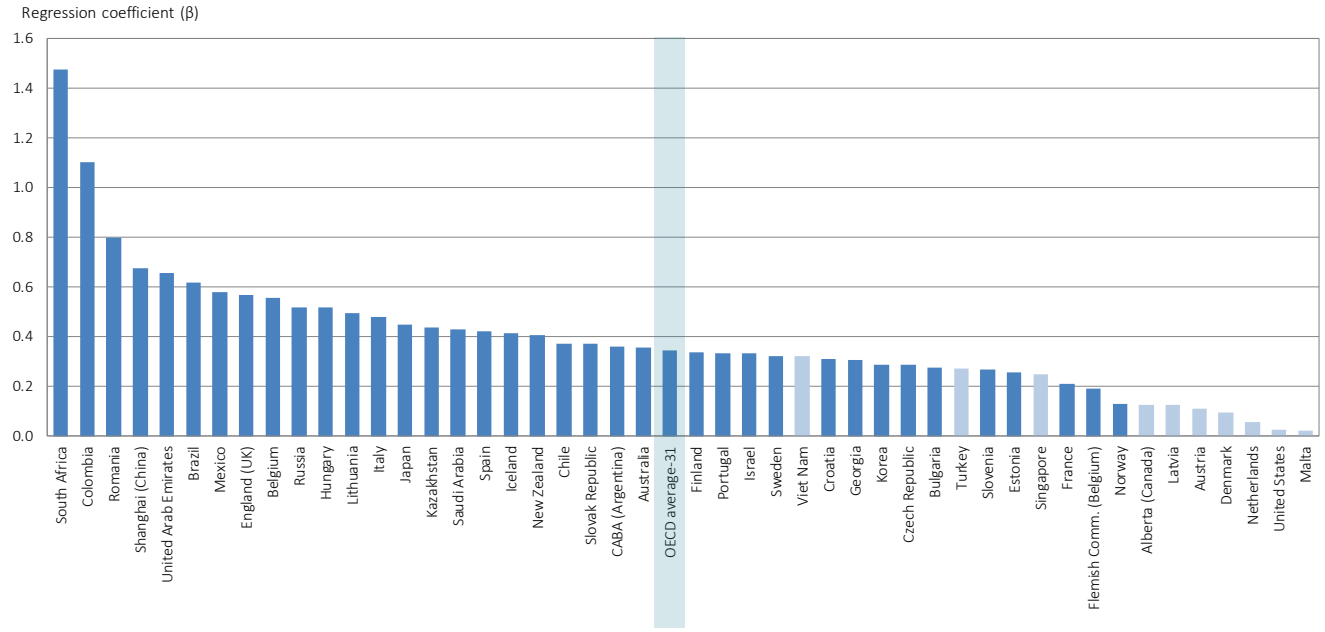
341. Restricting the analysis to teachers who completed their formal teacher education and training in the last five years sheds light on the comprehensiveness of the current teacher education and training systems. Among countries and economies with available data France and Spain are the two ones where teacher formal education and training systems have actually become more comprehensive, according to the two examined indicators. The changes in Spain are particularly sharp: the share of teachers trained in content, pedagogy and classroom practice in some or all subjects taught amounts to 68% of teachers who completed their teacher formal education or training in the last five years (instead of 48% in the whole teacher population) and an average of 7.4 elements were included in their formal education and training (instead of 5.2 in the whole population).

342. After subject content, pedagogy and classroom practice, the elements often included in teachers' formal education and training are: student behaviour and classroom management (72% of all teachers across OECD countries and economies); monitoring student development and learning (69%); teaching cross-curricular skills (65%); teaching in a mixed-ability setting (62%); and the use of ICT for teaching (56%) (Figure 6.5).[51] In comparison, teaching in a multicultural or multilingual setting is more rarely included as an element of teachers' formal education or training. Indeed, on average across OECD countries and economies, only 35% of all teachers are trained in this area, reflecting the fact that the phenomenon of globalisation of societies has emerged over the past few decades and was, logically, only recently included in teacher training. The lowest shares are observed in Europe, especially in Croatia (25% of teachers trained in this domain), Lithuania (23%), Portugal (21%), Hungary (18%), the Czech Republic (16%), France (12%) and Slovenia (12%), including in countries with high rates of students with a migrant background, such as France and Portugal (see Chapter 3). However, training in teaching in a multicultural or multilingual setting is common in countries with English as the main national language and those with several official languages and/or a tradition of multiculturalism[52], including Alberta (Canada), Australia, England (United Kingdom), New Zealand Shanghai (China), Singapore, South Africa, the United Arab Emirates and the United States, where around 60-80% of teachers received training in this domain. In almost all countries with available data, training in this domain is on the rise, with the largest increases observed in European countries, considering that the share of teachers who completed their teacher education or training programme in the five years prior to the survey are more frequently trained in this domain than the rest of the population.

343. Regression analyses based on TALIS data show that, across TALIS countries and economies, the content of teachers' formal education and training is important for teaching quality. After controlling for teacher characteristics, such as gender and teaching experience, teachers who had some training in student behaviour and classroom management as part of their formal education also tend to feel more efficient in their classroom management capabilities in most countries and economies participating in TALIS (Figure 6.6). A similar relation is observed regarding training in and use of ICT for teaching. On average across OECD countries and economies and in the majority of countries and economies participating in TALIS, teachers who were trained in the use of ICT are also more likely to report that they let students use ICT for projects or classwork. When it comes to teaching in a diverse classroom, teachers who have been trained in teaching in a multicultural or multilingual environment also tend to report higher self-efficacy in dealing with such a teaching environment in all TALIS participants, with South African teachers having notably high relationships in this regard. There exceptions were Alberta (Canada), Chile and Saudi Arabia, where no statistically significant relationship is found.

Figure 6.6:Relationship between self-efficacy in classroom management and being trained in classroom management

Change in the index of self-efficacy in classroom management associated with being trained in classroom management [1 2 3]



1. Results of linear regression based on responses of lower secondary teachers.
2. The predictor is a dummy variable: the reference category is student behaviour and classroom management not included in formal education or training.
3. Controlling for the following teacher characteristics: gender and years of experience as a teacher.

Note: Statistically significant coefficients are marked in a darker tone.

Countries and economies are ranked in descending order of the change in the index of self-efficacy in classroom management associated with being trained in classroom management.

Source: OECD, TALIS 2018 Database, REG.OLS.T3SECLS_TRAIN_v2.

344. Additionally, TALIS data makes it possible to identify which element of initial teacher education matters, particularly for teacher self-efficacy. Teacher overall selfefficacy is regressed on indicators of whether the teacher was trained in each of the ten elements potentially included in initial teacher education or training. Results show that, in 38 TALIS countries and economies, teachers who were trained in teaching crosscurricular skills (e.g. creativity, critical thinking, problem solving) are more likely to report higher levels of self-efficacy. Being trained in teaching in a multicultural setting is also conducive of higher self-efficacy in 23 TALIS countries and economies.

6.3.2 Teachers' sense of preparedness for teaching

345. Another way to gauge the quality of initial teacher education and training consists of learning from teachers how wellprepared they felt for various aspects of their job by the time they completed their education or training. Past research in the United States has indeed shown that the different elements of initial teacher preparation are, very often, related to selfperceived preparedness (Ronfeldt and Reininger, 2012[37]; Ronfeldt, Reininger and Kwok, 2013[38]). With this in mind, TALIS asks teachers the extent to which ("not at all"; "somewhat"; "well"; "very well") they felt prepared for various elements of teaching, the same ten elements as those potentially included in their formal education and training. In line with what previous research found, teachers' reported sense of preparedness for each of these elements aligns well with the prevalence of each element in teacher formal education and training (Figure 6.6). Yet, for all aspects, there are consistently more teachers who received training than teachers who felt well prepared or very well prepared in relation to them.

346. Among the core components of initial teacher education – subject content, subject pedagogy and classroom practice – more teachers reported having a strong command of subject content (80% of teachers in the OECD felt well or very well prepared for this) than reported having a strong command of subject pedagogy and classroom practice of that subject (71% felt well or very well prepared) (Figure 6.6). In some countries – the Czech Republic, France, Iceland, Italy and Japan – more than 50% of teachers felt underprepared for subject pedagogy or classroom practice. However, newly trained teachers report slightly higher levels of preparedness in one or both

elements than the rest of the teacher workforce in some of these countries – in the Czech Republic, France and Iceland.

347. The aspect of teaching that shows the largest variation between the training received and teachers' sense of preparedness is teaching in a mixed-ability setting.[53] Moreover, there are important cross-country variations in the share of teachers who felt prepared for this element: it ranges from less than 25% of teachers in the Czech Republic and Estonia to more than 75% in Hungary and Romania and even more than 85% in the United Arab Emirates. In 25 countries and economies participating in TALIS, more than 50% of teachers felt underprepared for teaching in a mixed-ability setting by the time they completed their teacher education or training. When restricting the analysis to those teachers who completed their teacher education or training in the five years prior to the TALIS survey, the same observation concerns 21 out of 41 countries and economies with available data.

348. All this suggests that some teachers feel that the training they received was not completely successful in preparing them for some aspects of their job. This can point to room for improvement in the training provided, but it can also be a way for teachers to acknowledge the importance of acquiring some teaching experience over a substantial period of time to feel very well prepared. This suggests that more can be done to improve training in this aspect and that actual practice is crucial for developing these skills.

6.3.3 Teachers studying abroad

349. Besides professional knowledge in a number of areas, and practical experience in the classroom, teachers also need a diverse skill set, including transversal skills such as communication, in order to satisfy the complex expectations they are facing. While spending time abroad as part of their teacher study, student teachers expose themselves to different ways of teaching and this can broaden their pedagogical repertoire as well as their understanding of other cultures. Such experience can be of help when, as in-service teachers, they will need to cope with the challenges of teaching students from multicultural backgrounds. A report on the impact of study abroad for traditional college students found that those who study abroad exhibit greater change in intercultural communication skills after a semester abroad than students who stay on their home campus and that exposure to various cultures is the greatest predictor of intercultural communication skills, cultural adaptability and sensitivity (Williams, 2005[39]).

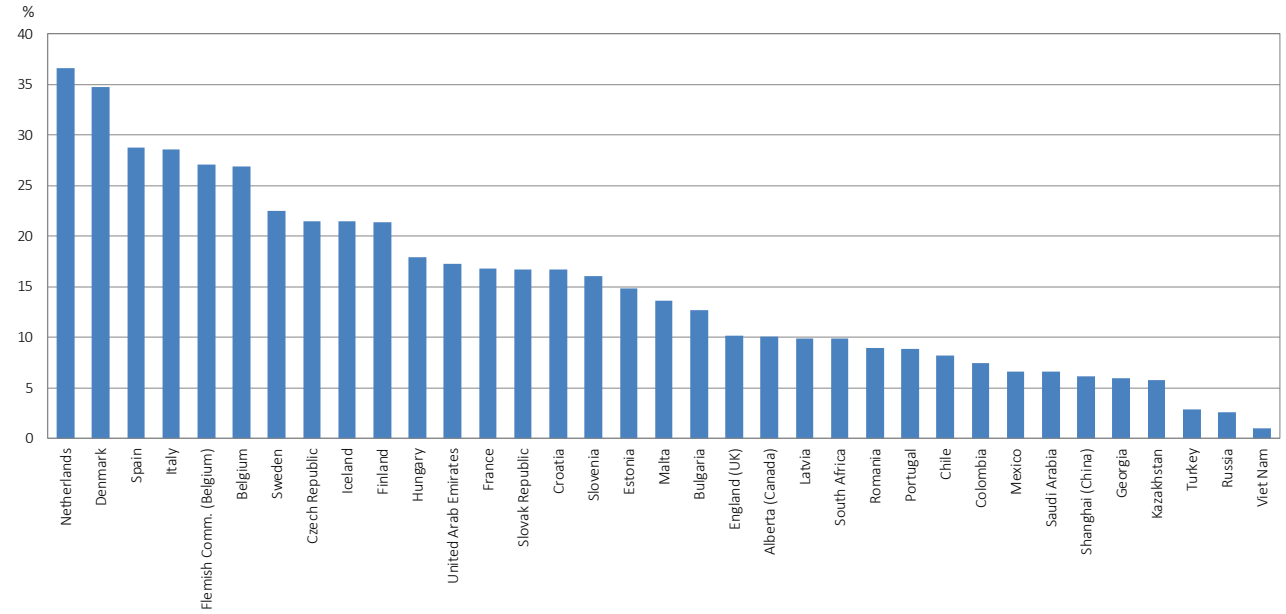
350. For this reason, TALIS 2018 offered the option of administering several questions about teachers' mobility abroad, including during their initial education. More specifically, TALIS asks teachers whether they have been abroad as a student as part of their teacher education or training. Thirty-six countries and economies participating in TALIS administered this optional question. The percentage of teachers having been abroad as part of their teacher education or training ranges from 1% in Viet Nam to 37% in the Netherlands (Figure 6.7). Countries and economies belonging to the European Union present the highest shares. This can partly be explained by the availability of opportunities to study abroad in the European Union, such as Erasmus+, supported by the European Commission, which offers opportunities for students to study abroad and teachers to teach abroad.[54] In interpreting TALIS results, one needs to keep in mind that being abroad as a teacher-student can actually refer to a wide range of activities, ranging from short-term excursions to a school abroad to studying for a full year in another country's teacher education programme.

351. Past research about the duration of study abroad has concluded that more is better (i.e. that the longer students study abroad, the more significant are the academic, cultural-development and personal-growth benefits that accrue). One study suggests that study abroad for a full year had a greater impact on students in the areas of continued language use, academic attainment measures, intercultural and personal development and career choices than a short summer programme or a semester (Dwyer, 2004[40]). While this study was not specific to student teachers, these outcomes relate to factors associated with quality teaching, as discussed in other parts of this report.

352. TALIS provides some partial information about the duration of teacher-student stays abroad. TALIS did ask teachers about the total duration ("fewer than three months"; "three to twelve months" or "more than a year") they stayed abroad, all purposes combined ("as a student, as part of my teacher education or training"; "as a teacher in a European Union programme"; "as a teacher in a regional or national programme"; "as a teacher, as arranged by a school or school district"; and "as a teacher, by my own initiative"). Unfortunately, for teachers who report that they stayed abroad for several purposes including as part of their teacher education or training, it is not possible to identify the duration of their stay abroad as part of their teacher education or training only. Therefore, to get an idea of the typical duration of a teacher-student's stay abroad, the remaining analyses are restricted to those teachers who have been abroad as a student as part of their teacher education or training only. There are some limitations to this approach, as these teachers are likely not representative of the teachers who have been abroad as part of their teacher education; they actually represent only a subset of teachers who have been abroad as students. In 26 out of the 29 countries and economies with available data, the most frequent duration of teachers' stay abroad as part of their teacher education is less than three months. In Alberta (Canada) and France, the most frequent duration of teacher studies abroad is three to twelve months. These findings suggest that teacher-students' stays abroad are relatively short, on average, and possibly too short to have a substantiated influence on the development of foreign language skills and other intercultural skills.

Figure 6.7: Stay abroad during teacher education

Percentage of lower secondary teachers who went abroad as a student, as part of their teacher education



Countries and economies are ranked in descending order of the percentage of lower secondary teachers who studied abroad as part of their teacher education.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.MOBILITY.

6.4 How are school leaders trained for their work as principals?

353. As a study on school leadership noted, it is possible to create pre-service programmes that help principals develop the skills to effectively engage in many of the practices associated with school success: cultivating a shared vision and shared practices; leading; instructional improvement; developing organisational capacity; and managing change (Darling-Hammond et al., 2007[41]). Indeed, principals play a vital role in setting the direction for successful schools, but knowledge on how best to prepare and develop highly qualified candidates is still sparse. This section examines the preparation of school leaders for their role as principals, in a cross-country comparative perspective.

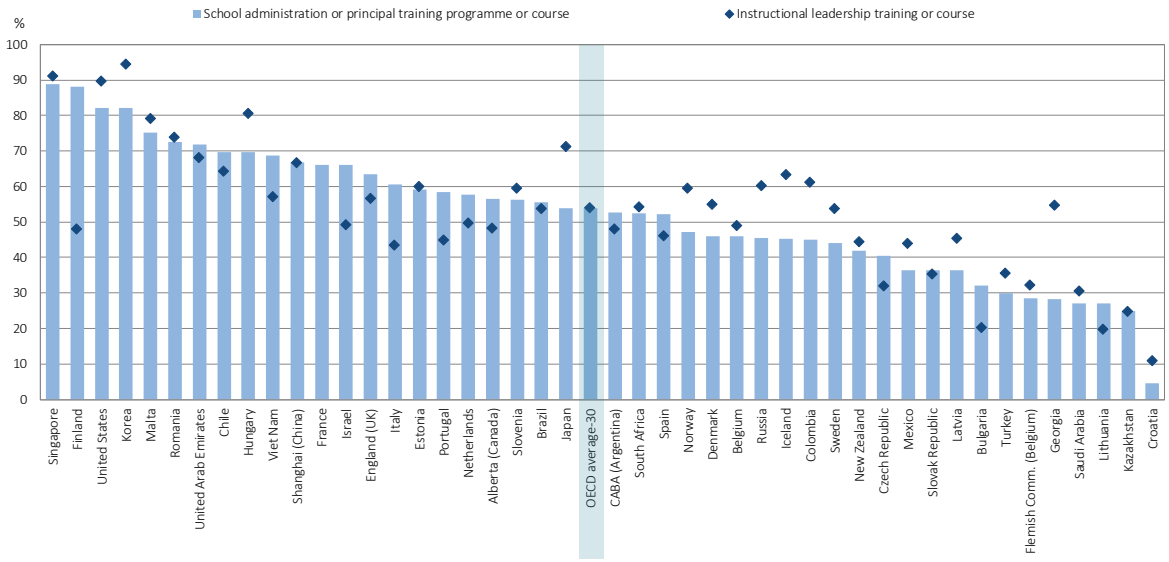
Attracting and Effectively Preparing Candidates

354. TALIS asks school leaders about the highest level of formal education they have attained, using ISCED-2011 (see Annex B for more information). School leaders generally hold higher degrees than teachers. They typically hold a master's degree (Figure 4.3), while teachers typically have a bachelor's degree. On average across the OECD, 63% of school leaders (compared to 44% of teachers) reported a master's degree or equivalent, including stronger specialisation and more complex content than a bachelor's degree (ISCED level 7), as their highest level of educational attainment. That is also the educational level attained by more than 90% of school leaders in Bulgaria, Croatia, Estonia, Finland, Portugal, the Slovak Republic and Slovenia. About another third (31%) of school leaders in the OECD completed a bachelor's degree or equivalent (ISCED level 6), as their highest level of education. But this is the highest level of formal education completed by more than 75% of school leaders in Brazil, Denmark, Japan, Kazakhstan, Saudi Arabia, Shanghai (China), Spain, Turkey and Viet Nam. On average across OECD countries and economies, school leaders are also more than twice as likely as teachers to hold a doctoral degree. At least 10% of school leaders hold doctoral degrees in the Czech Republic, Italy, Korea, Mexico and the United Arab Emirates, while there are virtually no doctorate holders among principals in Brazil, CABA (Argentina), Iceland, Japan, Norway and Viet Nam. The high shares of doctorates among principals observed in Italy, Korea and Mexico are consecutive to a rise in these degrees between 2008 and 2018, especially since 2013. Finally, the remaining 3% of school leaders across OECD countries and economies completed at most a short-cycle tertiary education programme (ISCED level 5 and below). Austria stands out with almost 50% of its school leaders having completed only a short-cycle education programme. The share of principals reporting a short-cycle education as the highest level of education has significantly decreased in Austria and Brazil since 2008 and in Iceland since 2013.

355. Beyond the level of formal education completed by school leaders, the content of their training is key for preparing them to become principals. Across OECD countries and economies, 85% of school leaders completed teacher training or an education programme or course before taking up their position as principal. This is aligned with the fact that many of them simultaneously serve as teachers or have served as teachers before. Another 5% did receive some training in teaching, but only after becoming principal, and the remaining 10% never did so. More than 15% of school leaders report never having being trained for teaching at the time of survey completion in Italy, Lithuania and Saudi Arabia, as do more than 25% in Croatia, the Czech Republic, Mexico and Portugal. This may be the result of a deliberate country policy of recruiting school leaders from a different track than that of teachers and of viewing their role more as managers, but it may also be a sign of recruitment challenges in these countries. Furthermore, this seems to point to the different roles principals have in different countries, whether they are pedagogical and administrative leaders or administrative leaders only. In the case of Italy, these findings are unexpected as, in theory, all principals have been trained as teachers. This may suggest that school principals responded about the training they received specifically on their path to becoming a principal.

Figure 6.8. Principals' formal training before taking up their role as a principal

Percentage of lower secondary principals for whom the following elements were included in their formal education before taking up their role as a principal [1]



1. Data refer to the the sum of the percentages of school leaders trained "before taking up position" and "before and after taking up position" as principal.
Countries and economies are ranked in descending order of the percentage of lower secondary principals for whom school administration or principal training programme or course were included in their formal edu
Source: OECD, TALIS 2018 Database, Table BMUL.UND.TRAIN_P.

356. An emerging issue across many countries is the growing challenge of recruiting people willing to work as school principals and properly training them for their role. Studies from the United States about the effects of leadership preparation programmes reveal that principals who were trained more thoroughly in instructional and organisational leadership more often engaged in these leadership practices in their schools (Orr and Orphanos, 2011[42]). These leadership practices are, in turn, associated with more teacher collaboration, higher qualifications of teams of teachers in the school (Fuller, Young and Baker, 2011[43]) and school improvement progress (Orphanos and Orr, 2014[44]). The TALIS 2013 report, *School Leadership for Learning,* also found that principals who attended training or a course in instructional leadership were, on average, more frequently involved in educational leadership actions in their school (OECD, 2016, p. 66[45]).

357. TALIS asks school leaders whether their formal education or training included additional useful elements for their position as principal, in the form of a school administration or principal training programme or course or an instructional leadership training programme or course. Since this chapter is concerned with initial preparation and training, the following analyses mainly focus on the total share of school leaders who received some specific training at least once before becoming principals (i.e. either only before or both before and after taking up their position). Yet, specific training provided to new principals is also of interest and is also examined, although TALIS results do not allow identification of the timing of this training.

358. On average across OECD countries and economies, slightly more than half of school leaders (54%) report having completed a programme or course in school administration or principal training at least once before taking up their position as principal, with the same share having completed an instructional leadership training programme or course (Figure 4.8). This figure is quite low, compared to the immense majority of teachers who receive formal education specific to their profession (subject training, pedagogical training, etc.). There are large cross-country variations in the extent to which school leaders were trained in these domains at least once before becoming principal. Rates of training at least once before taking up duties as a principal in both domains are amount to 75% or above in Korea, Malta, Singapore and the United States and below 35% in Bulgaria, Croatia, the Flemish Community of Belgium, Kazakhstan, Lithuania and Saudi Arabia (Table BMUL.UND.TRAIN_P). On average across OECD countries, about 33% of school leaders were trained in school administration or principal work only after becoming a principal. While it may be the case that such training took place shortly after they became

principals, TALIS findings do not allow this to be asserted. In addition, about 13% reported that they had never had such training at the time of survey completion. More principals – 18% on average across the OECD – report never having been trained in instructional leadership. This share amounts to at least 30% of principals in CABA (Argentina), Croatia, the Czech Republic, England (United Kingdom), Israel, Italy and Lithuania. Box 4.4 sheds light on how new principals in Singapore are trained to lead school-level improvements and innovations.

Box 6.1: Leaders in Education programme in Singapore

In Singapore, various national education bodies including the Ministry of Education, offer and incentivise teachers to develop management and leadership competencies at several stages in their career. Singapore sets its teachers on the path to prepare for leadership roles early in their career, through an identified leadership track. Teachers who aim to be school leaders in future years can take up specific roles and responsibilities in the school improvement cycle. Therefore, identification of potential leaders and opportunities to demonstrate leadership are important precursors to selecting and providing required skills and knowledge for principalship in Singapore.

For new principals, the National Institute of Education in Singapore in collaboration with the Ministry of Education has designed Leaders in Education (LEP) as a 6-month pre-service programme. "The programme aims to develop principalship capability that is values-driven, purposeful, innovative and forward-looking, anchored on both strong people and instructional leadership, strategic management skills, and an appreciation of how principals could work effectively in a complex environment." The programme was introduced in 2001 to replace the Diploma to Educational Administration, in order to provide a more robust, hands-on and relevant preparation for principals to lead schools. A key focus of the LEP is on innovation and creation of new knowledge, where the principal is seen as instrumental in driving collective and collaborative knowledge creation tailored to their school's context. As an illustration, the Creative Action Projects (CAP) led by participants in the 2017 graduating class included student-led toolkits to drive social-emotional learning in the school and an "Empathy" project to develop students' competencies in leadership and character development.

The design of the LEP focuses on engaging and project-based modules, such as a school action research project mentored by principal candidates at their schools, case studies, school and industrial site visits, sessions in management, dialogues with the Ministry of Education and a two-week international visit. As a policy instrument, the programme is mandated to be undertaken by all specially selected vice-principals before they take up duty as school leaders. That the participants are both salaried and fully funded indicates the country's huge investment in human capital development.

Source: National Institute of Education, https://www.nie.edu.sg/our-people/academic-groups/policy-and-leadership-studies/programmes/leaders-education-programme-lep.

359. Looking at trends over time, principals' training is rather steady over the past five years in most of the countries with data available since 2013. Yet, the total share of principals trained in instructional leadership has risen in a few countries – Finland, France, Latvia, Portugal, Singapore, the Slovak Republic and Spain – and so, in some countries, has the share of principals trained in school administration – Denmark, Finland, Latvia, New Zealand, Portugal and Romania.

6.5 How are novice teachers supported during their first career years?

360. Along with initial teacher training and certification, teachers' work experience helps shape their skills and competencies. Years of experience might be particularly important early in a teacher's career. Some evidence shows that each additional year of experience is related to higher student achievement, with gains being especially large during the first five years in the profession (Harris and Sass, 2011[46]; Rivkin, Hanushek and Kain, 2005[47]; Rockoff, 2004[48]). Most importantly, the working conditions, support and early professional development that novice teachers experience in their first years are important elements for them to confirm their career choice

and remain in the teaching profession (Paniagua and Sánchez-Martí, 2018[49]). In most of the 15 studies they reviewed, Ingersoll and Strong (2011[50]) found empirical evidence for the claim that support and assistance for beginning teachers have a positive influence on outcomes such as commitment and retention of teachers, classroom teaching practices and student achievement. At the system level, it is crucial that investments made in initial teacher education provide positive returns in the mid-to-long term. This is only possible if novice teachers feel successful at delivering quality instruction and pursue their career in the profession. Education systems and their schools therefore need to provide strong support to teachers in their first years of experience.

361. This section examines how novice teachers (defined as teachers with up to five years of teaching experience) feel about their work, in terms of both self-efficacy and satisfaction and what support they receive from their schools during the first years of their career. Novice teachers represent 19% of the teacher population across OECD countries and economies, but less than 10% in three countries: Viet Nam (9%), Lithuania (7%) and Portugal (3%). The following sections compare novice teachers with the rest of the teacher population.

6.5.1 Novice teachers' self-efficacy and job satisfaction

362. Analyses reported in Chapter 2 indicated that novice teachers are in general less likely to feel confident in their teaching skills than their more experienced peers (teachers with more than five years of experience), particularly in their ability to manage their classroom and to use of a variety of practices In addition, on average across the OECD, novice teachers tend to be slightly less satisfied with their performance in their school than more experienced teachers (90% of novice teachers compared to 93% of more experienced teachers) .

363. Furthermore, TALIS actually asks questions about the extent to which teachers tend to disagree or agree ("strongly disagree"; "disagree"; "agree"; "strongly agree") with statements relative to their satisfaction with their work environment and their profession. Results show that novice teachers are generally slightly more satisfied with their career choice and with the teaching profession than more experienced teachers. However, there is one working environment dimension that shows a different pattern: teachers who would like to change to another school. More specifically, on average across OECD countries and economies, 22% of novice teachers and 19% of more experienced teachers would like to change to another school if that were possible. A significant gap is found in favour of novice teachers in 14 countries and economies and is especially pronounced in Austria, France, Korea, Latvia, Mexico, Saudi Arabia, Slovenia, Turkey and the United Arab Emirates. This might be related to novice teachers having limited choices regarding which school they work in and the fact that they often work in more challenging schools (Mostafa and Pál, 2018[51]).

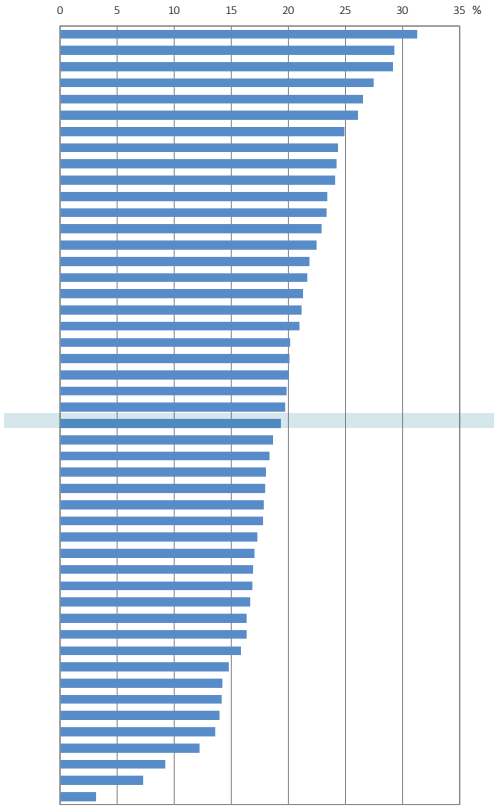
364. The remainder of this section examines how novice teachers are supported to best cope with their new duties. It explores in particular four potential levers to achieve this support: teachers' school assignment; supply of induction activities; reduced teaching load; and mentoring.

6.5.2 Novice teachers' school assignment

365. Novice teachers tend to work in more challenging schools that have higher concentrations of students from socio-economically disadvantaged homes and immigrant students (Figure 6.9). On average across the OECD, in schools with high concentrations of students from socio-economically disadvantaged homes, 22% of teachers are novice teachers, and in schools with high concentrations of immigrant students, the share of novice teachers is 23%. In schools with low concentrations of students from socio-economically disadvantaged homes, 19% of teachers are novices, the same share as in schools with low concentrations of immigrant students.

Figure 6.9. Novice teachers, by school characteristics

Percentage of novice [1] lower secondary teachers



+ Positive difference
- Negative difference
Difference is not significant
Missing values

	Difference by school characteristics				
	City - rural area	Private - public schools	High - low concentration of disadvantaged students [2]	High - low concentration of immigrant students [3]	High - low concentration of students with special needs [4]
Turkey	-	+	+		
Singapore		-			-
Chile	-				
South Africa				-	
Malta		+			+
Austria	+		+	+	+
Israel					
United States					
Kazakhstan		-			
Australia	-	-			-
Mexico					
England (UK)			+	+	
Alberta (Canada)					
Norway	+			+	
Russia	-				
Korea		-			
Belgium	+		+	+	
New Zealand		-			
Japan					
Flemish Comm. (Belgium)			+		
Bulgaria					
Iceland					
Saudi Arabia	-		+		
Croatia					
OECD average-31		+	+	+	
Czech Republic					
Denmark				+	
Slovenia					
Sweden		+			
Italy		+			
CABA (Argentina)					
Netherlands					
Finland					
Spain	-				
United Arab Emirates	+	+		+	
Colombia		+	-		
France			+		
Shanghai (China)					
Slovak Republic	+	+			
Estonia			+		+
Brazil			-		
Georgia					
Romania	-		+		
Latvia					
Hungary		+			
Viet Nam		+			
Lithuania					
Portugal		+			-
Countries with a positive difference	5	10	9	6	3
Countries with no difference	25	21	24	20	32
Countries with negative difference	7	5	2	1	3

1. Novice teachers are teachers with up to five years of teaching experience.
2. High concentration of disadvantaged students refer to schools with more than 30% of students from socio-economically disadvantaged homes.
3. High concentration of immigrant students refer to schools with more than 10% of immigrant students.
4. High concentration of students with special needs refer to schools with more than 10% of students with special needs.

Countries and economies are ranked in descending order of the average proportion of novice teachers

Source: OECD, TALIS 2018 Database, Table BIN.SCH.TCEXP.

366. This points to a more general issue of teacher allocation across schools. The unequal access of disadvantaged students to experienced teachers is a real concern. A recent OECD report concluded that gaps in student performance related to socio-economic status are wider in countries where socio-economically disadvantaged schools employed fewer qualified and experienced teachers than advantaged schools. This tendency might result from different teacher retention rates across schools or mobility schemes through which teachers with more years of service have more chances to move to their preferred school through job mobility (OECD, 2018, p. 101[5]).

6.5.3 Induction programmes

367. 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. Among the three aspects that stand out as common to all high-performing and equitable education systems, the recent OECD report on effective teacher policies identified a mandatory and extended period of classroom practice as part of pre-service teacher education or of the induction period. Indeed, "teacher candidates in high-performing countries typically receive extended clinical training to help them bridge theory and practice at the beginning of their teaching career; where the practicum included in initial teacher-preparation programmes is short, novice teachers benefit from intensive induction or mentoring programmes to support beginning teachers" (OECD, 2018, p. 45[5]). TALIS 2013 results also showed

that participation in induction activities was positively related to acting as a mentor and to participation in in-service professional development[55], suggesting a virtuous cycle for teacher continuous learning – see Chapter 4 of TALIS 2013 Results report (OECD, 2014[14]).

368. Results from the last two cycles of TALIS showed that, in a small number of countries, provision of induction activities for teachers at the system or local school level (or both) was either absent or very limited. However, the positive impact of induction activities for teachers on teaching quality and student learning has been shown in various studies (Ingersoll and Strong, 2011[50]). In particular, empirical evidence shows that students taught by teachers who receive comprehensive induction support demonstrate learning gains larger than those experienced by students taught by teachers who do not receive such support – see, for instance, Glazerman et al. (2010[52]) and Helms-Lorenz, Slof and van de Grift (2013[53]).

369. The definition of induction in TALIS 2018 is a refinement of the definition used in TALIS 2013. The new definition considers that induction activities are designed not only to support new teachers' introduction into the teaching profession but also to support experienced teachers who are new to a school. Induction activities might be presented in formal structured programmes (for example, regular supervision by the principal, a reduced teaching load or formal mentoring by experienced teachers), or they might be informally arranged as separate activities available to support new teachers (for example, informal peer work with other new teachers or a welcome handbook for new teachers).

370. Based on principals' reports, access to informal induction activities in their school is more common than access to formal activities. On average across the OECD, 54% of school leaders report that new teachers have access to formal induction activities, while 74% of school leaders report that they have access to informal induction activities. On average across OECD countries and economies, 13% of schools do not offer teachers access to any kind of induction. This share ranges from less than 1% of schools in England (United Kingdom), the Flemish Community of Belgium, the Netherlands, New Zealand, Shanghai (China) and Singapore, to more than 30% of schools in CABA (Argentina), Chile, Hungary, Lithuania, Mexico and Spain, and to more than 40% of schools in Brazil, Georgia and Hungary.

371. TALIS also asks all teachers whether they took part in induction activities during their first employment and at their current school. About 62% of teachers, on average across OECD countries and economies, report that they did not participate in any induction activities, formal or informal, during their first employment. This share is slightly higher among novice teachers (66%) than among teachers with more than five years' experience (61%) , suggesting a downward trend in participation in induction activities.

372. When referring to their first employment, teachers report that they most frequently participated in formal induction activities (33% of teachers across the OECD) than in informal activities (24%) . When referring to their current school, the opposite pattern is observed: teachers report having more often taken part in informal induction activities (35%) than in a formal induction programme (29%) . These patterns remain similar when restricting the analyses to teachers new to teaching, suggesting that these differences are not attributable to any recent changes in school-level induction practices. This could mean that formal induction is more reserved for teachers new to teaching, while informal induction to the specificities of a school is more typical only for teachers who are new to a school.

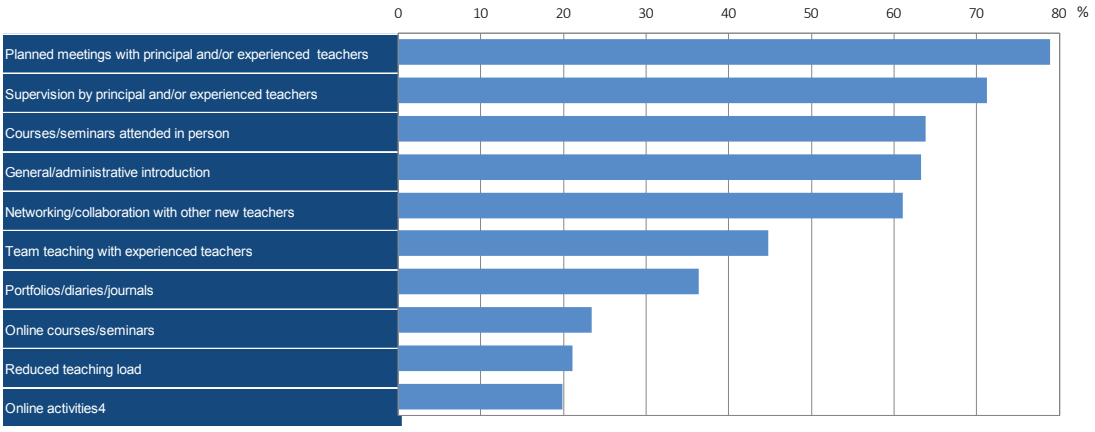
373. The apparent mismatch between the availability of induction programmes, as reported by principals, and the actual participation of teachers in these programmes, as reported by teachers, was commented on in the *TALIS 2013 Results* report (OECD, 2014, pp. 88-93[14]) and is still seen in 2018. This mismatch could result from several

factors. It can first stem from different timescales for teachers and principals' responses. Principals are describing current provision at the school, while teachers are describing what happened when they started at the school. Also, not all provisions are necessarily available to all teachers new to a school. For example, a reduced teaching load could be standard for novice teachers in their first years, but not for other teachers. School leaders or school staff may not sufficiently inform all their staff about the existence of such programmes or may not encourage all of them to participate (particularly the most experienced teachers), or teachers may be aware of the existence of such programmes but may not be able to participate or decide not to participate for various reasons.

374. TALIS also asks teachers who participated in induction at their current school[56] which provisions are included (Figure 6.10). According to teachers, induction typically includes: planned meetings with the school principal and/or with experienced teachers (79% of teachers across the OECD); supervision by the school principal and/or with experienced teachers (71%); courses or seminars attended in person by the teacher (64%); a general or administrative introduction (63%); and networking or collaborating with other new teachers (61%). On average across the OECD, induction provisions more rarely include: team teaching with experienced teachers (45% of teachers across the OECD); and the existence or use of portfolios, diaries or journals (36%). Team teaching (teaching by a team of teachers working together) with experienced teachers during teacher induction is particularly rare in Europe, including in Belgium (and the Flemish Community), England (United Kingdom), Finland, France, the Netherlands and Sweden. In general, very few teachers have taken part in induction that includes online courses and seminars (23%) or online activities (20%), but online induction is quite common in the Eastern part of the globe, including in Israel, Kazakhstan, Korea, the Russian Federation, Shanghai (China), Turkey, the United Arab Emirates and Viet Nam. Finally, only 21% of teachers across the OECD report that induction at their current school includes a reduced teaching load for them, with the exception of New Zealand, Saudi Arabia and Singapore, where slightly more than 50% of teachers so report.

Figure 6.10: Induction activities for teachers

Percentage of lower secondary teachers reporting that the following provisions are included in teacher induction at their current school [1] (OECD average-30)



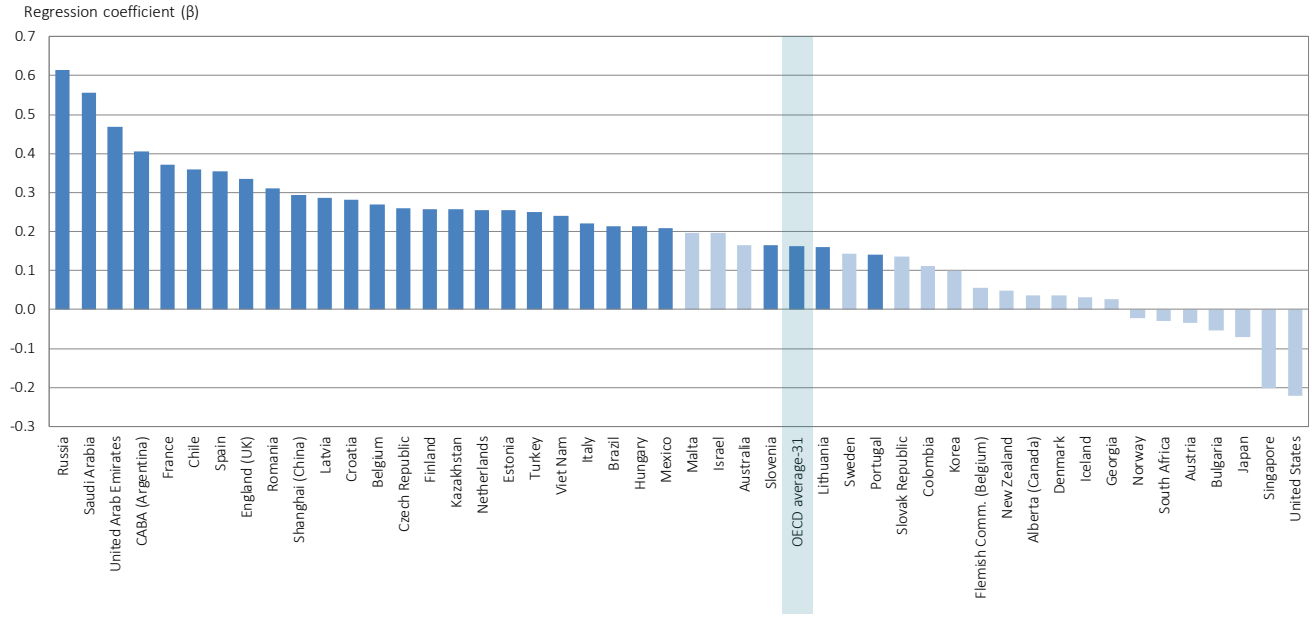
1. The sample is restricted to teachers who took part in induction acivities at the current school based on teachers' responses and also have access to induction activities based on principals' responses
Values are ranked in descending order of the percentage of lower secondary teachers reporting that the following provisions are included in teacher induction at their current school.
Source: OECD, TALIS 2018 Database, Table BMUL.TP.INDUC_ELEM.

375. Teacher induction is important to promote teaching quality and job satisfaction. Evidence from the United States shows that comprehensiveness of induction programmes is associated with higher teacher retention among new teachers (Box 4.5). Regression analysis based on TALIS data shows that teachers who took part in some kind of induction activity, formal or informal, also tend to report higher self-efficacy and job satisfaction (on average across OECD countries and economies. This is consistent with past studies that usually found that beginning teachers who participated in some kind of induction had higher job satisfaction, commitment or retention (Ingersoll and Strong, 2011[50]). Induction is accompanied by an increase in reported self-efficacy in 10 countries and economies participating in TALIS when induction occurs during first employment , and in 28 countries and economies when induction is undertaken at the current school (Figure 6.11). [57] A similar and accentuated pattern is observed in

the case of job satisfaction. After controlling for teacher characteristics, there are 10 countries and economies participating in TALIS where teachers who undertook induction during first employment also tend to be more satisfied with their job. A similar relationship between induction at the current school and job satisfaction is found in most countries and economies participating in TALIS. Induction at the school where teachers are currently working seems, therefore, to matter a lot for them to be satisfied with their current job.

Figure 6.11: Relationship between self-efficacy and participation in induction at current school

Change in the index of self-efficacy [1] associated with having participated in induction activities at current school [2 3 4]



1. The index of self-efficacy measures teacher self-efficacy in classroom management, instruction and student engagement.
2. Results of linear regression based on responses of lower secondary teachers.
3. The predictor is a dummy variable: the reference category is not having taken part in any induction activities (formal or informal) at current school.
4. Controlling for the following teacher characteristics: gender, years of experience as a teacher; and for elements of initial teacher education programme.

Note: Statistically significant coefficients are marked in a darker tone.

Countries and economies are ranked in descending order of the change in the index of self-efficacy associated with having taken part in any induction activity (formal or informal) at current school.

Source: OECD, TALIS 2018 Database, REG.OLS.T3SELF_D_INDUCCS_v2.

376. Moreover, regression analysis also supports the idea that some induction provisions may be particularly important for boosting teachers' self-efficacy and job satisfaction. Team teaching with experienced teachers seems to be especially promising. In most countries and economies participating in TALIS, teachers for whom team teaching with experienced teachers was part of their induction activities at their current school also tend to report higher self-efficacy and job satisfaction. Teachers who had a reduced teaching load as part of their induction at their current school also tend to report higher levels of self-efficacy and job satisfaction, in 12 of the countries and economies participating in TALIS.

377. These findings are very much aligned with those highlighted by past studies. The majority of studies reviewed by Ingersoll and Strong (2011[50]) showed that beginning teachers who participated in some kind of induction performed better at various aspects of teaching, including keeping students on task, developing workable lesson plans, using effective student questioning practices, adjusting classroom activities to meet students' interests, maintaining a positive classroom atmosphere and demonstrating successful classroom management. In addition, almost all of the studies showed that students of beginning teachers who participated in some kind of induction had higher scores or gains on academic achievement tests.

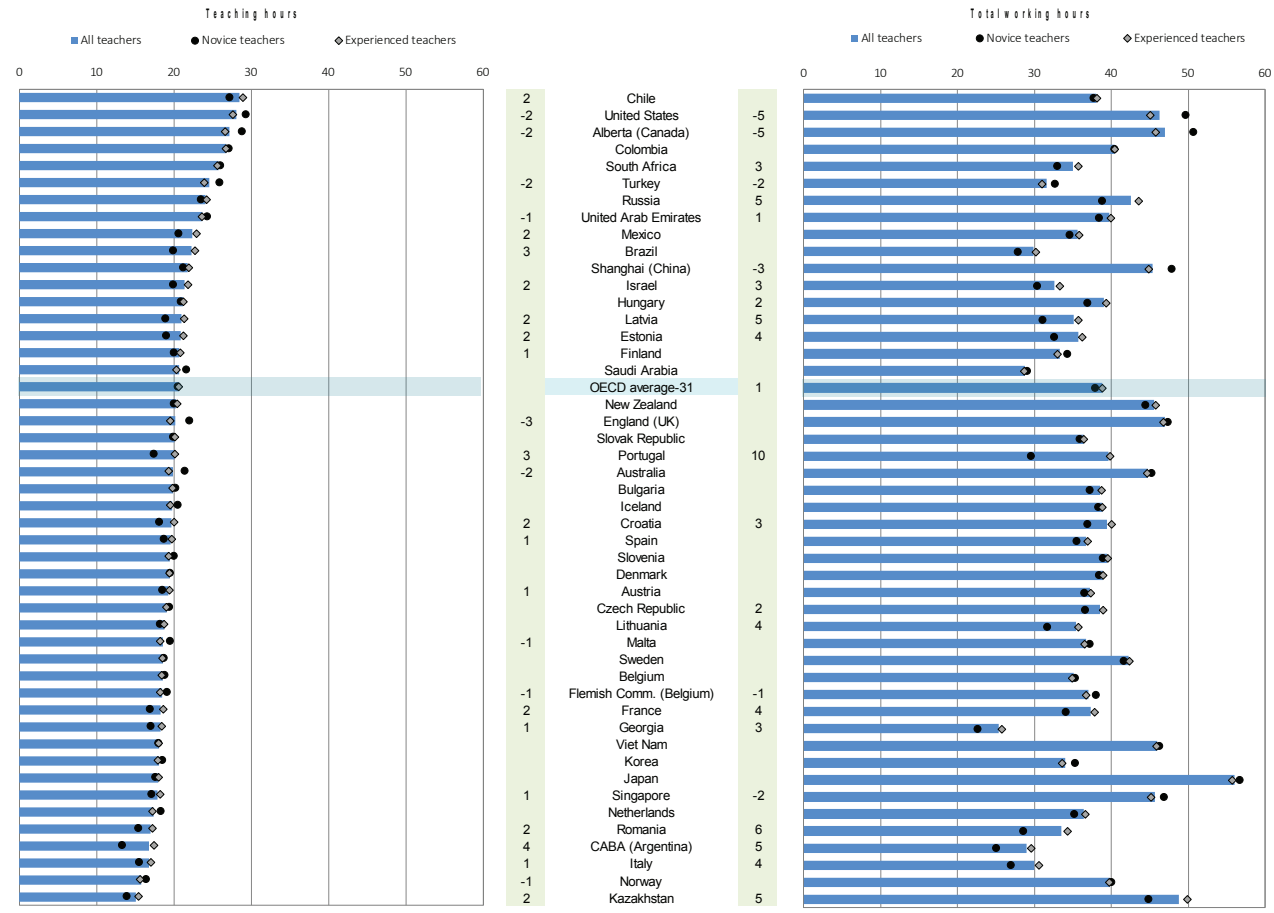
6.5.4 Reduced workload

378. A reduced workload, whether a formal provision of teacher induction or not, can help teachers new to the profession to cope with their duties. For example, novice teachers can use this spare time for more planning and preparing their lessons or analysing their students' work, resulting in better teaching. At first glance, on average across the OECD, novice teachers work one hour less per week in total than teachers with more than five years of experience. However, on average across the OECD, and after adjusting for teachers' full-time or part-time status, there is no longer any difference between the total number of work hours reported by novice and more experienced teachers. This is because novice teachers tend to work part-time more often than experienced teachers do. However, the OECD average hides various patterns across countries. Still, after adjusting for teachers' full-time or part-time status, novice teachers work fewer hours than more experienced teachers in 12 countries and economies do. In CABA (Argentina), Kazakhstan and Romania, novice teachers work about 4 hours less a week than more experienced teachers, and almost 7 hours less in Portugal. By contrast, after adjusting for full-time or part-time work, in 9 other countries and economies, novice teachers work one hour or more a week than experienced teachers. In Alberta (Canada) and the United States, novice teachers work 5 hours more a week than experienced teachers, both before and after adjustment.

379. On average across OECD countries and economies, novice teachers report teaching about the same number of hours as more experienced teachers (Figure 6.12). There are also important cross-country variations in this regard. Novice teachers report spending fewer teaching hours a week in 18 countries and economies. In Brazil, CABA (Argentina), Estonia, Latvia, Mexico and Portugal, novice teachers teach two or more hours less a week that their more senior colleagues. In another 10 countries and economies, the opposite pattern is observed. For instance, in Alberta (Canada), Australia, England (United Kingdom) and Turkey, novice teachers teach two or more hours more a week than experienced teachers. A reduced teaching workload usually results in reduced total working hours, but there is an exception to this, Singapore, where novice teachers teach about an hour less a week but work almost two hours more a week in total. Additional analyses[58] indicate that, in Singapore, novice teachers spend more time than experienced teachers on marking and correcting student work and engaging in extracurricular activities.

Figure 6.12: Teachers' workload, by experience

Average number of hours lower secondary teachers spent on working in total and teaching[1]



1. Refers to activities during the most recent complete calendar week. Also includes tasks that took place during weekends, evenings or other out-of-classroom hours.

Note: Statistically significant differences between experienced teachers (with more than 5 years of experience) and novice teachers (with fewer than or equal to 5 years of experience) is shown next to the country/economy name (see . Countries and economies are ranked in descending order of lower secondary teachers' average number of teaching hours during the most recent complete calendar week.

Source: OECD, TALIS 2018 Database, Table CMUL.TCEXP.WORK_HOURS

6.5.5 Mentoring

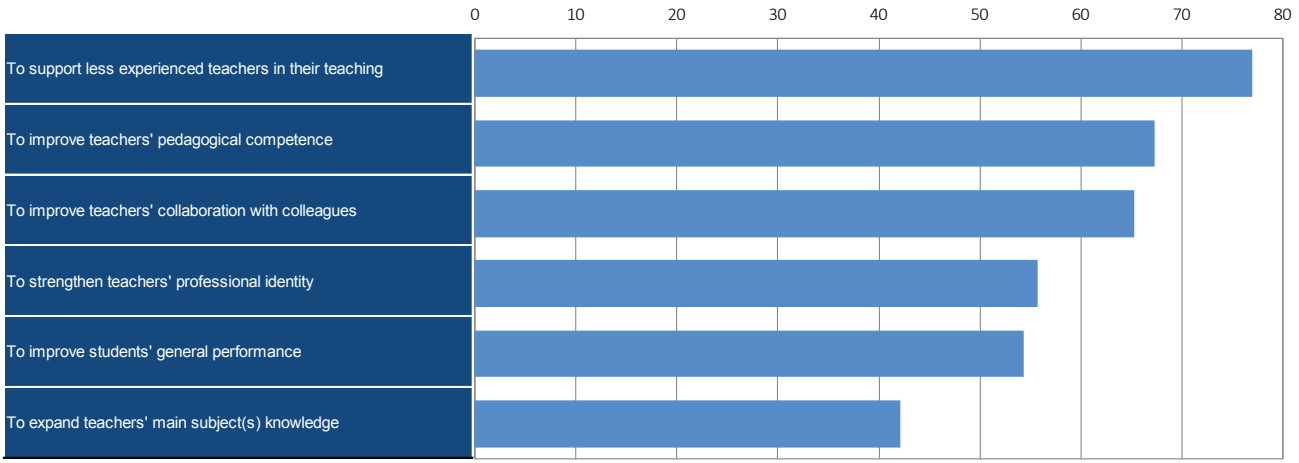
380. Teachers new to teaching can be supported in their early career by having a mentor assigned to them. TALIS defines mentoring as a support structure in schools where more experienced teachers support less experienced teachers. This structure might involve all teachers in the school or only novice teachers. It is often considered an integral part of teaching. Evidence shows strong relationships between measures of mentoring quality and teachers' assessment of the impact of mentors on their success in the classroom and a moderate association between the number of mentoring hours by the teacher and student achievement. This supports the notion that time spent working with a mentor does improve teaching skills (Rockoff, 2008[56]). In the OECD, about two-thirds of schools provide such a mentoring programme, whether to all of their teachers, only teachers new to the school or only teachers new to teaching. There are important cross-country variations in the prevalence of mentoring. Fewer than 10% of school leaders report that there is no access to a mentoring programme for teachers in their school in Croatia, England (United Kingdom), Israel, Kazakhstan, the Netherlands, the Russian Federation, Shanghai (China), Singapore and the United States, while more than 60% of school leaders so report in Austria, CABA (Argentina), Chile, Finland, Latvia and Saudi Arabia.

381. TALIS asks school leaders whose school offers mentoring about the general importance of mentoring for teachers and schools, asking them to select one choice among four options: "not important at all"; "of low importance"; "of moderate importance"; or "of high importance". Given the very high percentages obtained when focusing on school leaders who rate mentoring as either moderately or highly important, the following analysis only focuses on school leaders who rate mentoring as highly important. (Figure 4.13). Across the OECD, more than half of the school principals whose school offers mentoring think that mentoring is of high importance to support less-experienced

teachers in their teaching (77%), to improve teachers' pedagogical competence (67%), to improve teachers' collaboration with colleagues (65%), to strengthen teachers' professional identity (56%) and to improve students' general performance (54%). In addition, across the OECD, only 42% of school principals whose school provides mentoring consider that these activities are of high importance to expand teachers' main subject knowledge.

Figure 6.13: Importance of mentoring

Percentage of lower secondary principals reporting that the following outcomes of mentoring are of "high" importance [1] (OECD average-30)



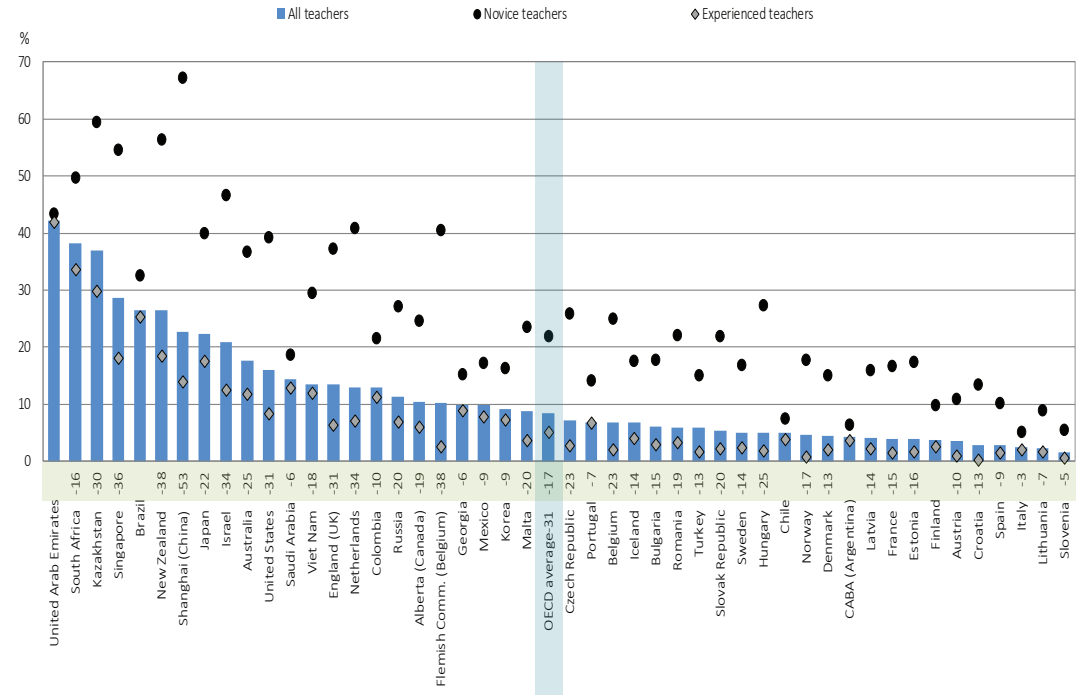
1. The sample is restricted to principals reporting that teachers have access to mentoring programme at the school.
Values are ranked in descending order of the percentage of lower secondary principals reporting that the following outcomes of mentoring are of "high" importance.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.MENTOR_IMPORT.

382. While a majority of school principals consider mentoring to be highly important for teachers' work and students' performance, only 22% of teachers with up to five years of teaching experience have an assigned mentor, on average across the OECD (Figure 6.14). But there are substantial cross-country variations in the prevalence of mentoring programmes for novice teachers. Only between 5% and 10% of novice teachers have an assigned mentor in CABA (Argentina), Chile, Finland, Italy, Lithuania and Slovenia. However, in four countries and economies, more than 50% of novice teachers have an assigned mentor: Kazakhstan, New Zealand, Shanghai (China) and Singapore (Figure 6.14). During the last five years, four countries show a slight increase in the share of mentored teachers, despite the stricter definition of mentoring used in TALIS 2018 compared to the 2013 cycle: the Czech Republic, Georgia, Portugal and Sweden.[59]

383. Evidence shows that the characteristics of a teacher's mentor matter for the quality of mentoring (Simmie et al., 2017[57]; Spooner-Lane, 2017[58]). A study conducted in New York City in the 2000s found strong evidence that retention within a particular school is higher when a mentor has previous experience working in that school, suggesting that an important part of mentoring may be the provision of school-specific knowledge (Rockoff, 2008[56]). TALIS asks teachers if they are an assigned mentor for at least one teacher at the time of the survey. Therefore, it is possible to describe mentors' profiles. On average across the OECD, 13% of teachers with more than five years of experience and 6% of novice teachers act as mentors for at least one teacher. Experienced teachers are, therefore, about two times more likely to be an assigned mentor than novice teachers . As experienced teachers represent more than 80% of the teacher population across the OECD countries and economies participating in TALIS, this implies that most mentors are experienced teachers. Yet, it may be also a deliberate and reasonable choice by education systems, by schools or by teachers themselves to assign relatively new teachers to mentor novice teachers, so they can share their recent experience in coping with the challenges of early career years. In South Africa , more than half of the teachers surveyed indicated they were allocated a mentor at the school they were teaching.

Figure 6.14. Peer mentoring, by teachers' teaching experience

Percentage of lower secondary teachers who have an assigned mentor as part of a formal arrangement at the school [1]



1. Mentoring is defined as a support structure in schools where more experienced teachers support less experienced teachers.
Note: Statistically significant differences between experienced teachers (with more than 5 years of experience) and novice teachers (with fewer than or equal to 5 years of experience) is shown next to the country/economy name (see Annex XX).
Countries and economies are ranked in descending order of the percentage of lower secondary teachers who have an assigned mentor
Source: OECD, TALIS 2018 Database, Table BMUL.TCEXP.MENTOR.

Notes

1. The OECD average corresponds to the arithmetic mean of the estimates of the OECD countries and economies that participate in TALIS, with adjudicated data.

2. According to ISCED-11, these education programmes, designed to provide participants with intermediate academic and/or professional knowledge, skills and competencies, typically consist of three to four years of full-time study (ISCED level 6).

3. Due to a change in the ISCED classifications between TALIS 2013 and TALIS 2018, it is not possible to disentangle the change in the percentage of teachers holding a bachelor's degree and that of teachers holding a master's degree. However, the percentage of teachers holding a bachelor's degree or a master's degree has risen in more than a third of countries and economies participating in TALIS since 2008 or 2013, depending on the data available.

4. A short-cycle tertiary education is usually about two years long.

5 Teach for Australia, which trained 800 teachers in 10 years, is an example of this fast-track teacher training programme (more information is available at https://www.teachforaustralia.org/).

6. Additional analyses, not presented in this report, were conducted on TALIS 2018 data to examine whether those teachers who did not receive content training tended to teach some subjects more than others, compared to the teachers who were trained in subject content. Analyses show that no particular subject really stands out cross-nationally. Teachers who were not trained in the content of the subject they teach, are only slightly more likely to teach subjects such as technology and practical and vocational skills, than their counterparts, on average across the OECD and TALIS participants. Yet, some subjects stand out nationally as being more likely to be taught by teachers who did not receive training in this subject: for example, mathematics in Alberta (Canada), technology and vocational skills in Belgium, or modern foreign languages in Iceland.

7. Training in all these domains is also more often included in the current education and training programmes received by teachers who completed it in the past five years (i.e. since 2013) than it was in the past. The largest increases are observed for training in the use of ICT.

8. The perspective of multiculturalism acknowledges and recognises expressions of diversity.

9. The mark-up is estimated as the ratio between 1) the difference between the percentage of teachers who felt "well" or "very well" prepared for an element and 2) the percentage of teachers for whom that element was included in their formal education or training.

10. For more information, see https://ec.europa.eu/programmes/erasmus-plus/opportunities_en.

11. TALIS defines in-service professional development as activities that aim to develop an individual's skills, knowledge and expertise, among other things, that have been undertaken after initial education or training.

12. TALIS also asks principals about the provisions included in teacher induction in their school, and their reports are relatively consistent with those of teachers (Table BMUL.TP.INDUC_ELEM).

13. One may wonder whether participating in induction adds any value to initial teacher training with regard to teacher self-efficacy. This question is examined by adding the elements included in teacher education or training as controls in the regressions of teacher self-efficacy. The positive relationship found in 10 countries and economies between participation in induction activities during first employment and self-efficacy still holds in 9 countries and economies, after controlling for all the elements included in teacher education or training (Table REG.OLS.R_T3SELF_D_INDUCFE_v3). Similar results are found when replicating the same approach for participation in induction activities at the current school, with 22 countries and economies for which the positive relationship found between participation in induction activities at the current school and self-efficacy still holds after controlling for the content of initial teacher education (Table REG.OLS.R_T3SELF_INDUCCS_v3).

14. Not presented in this report.

15. Some of the substantial differences between 2013 and 1018 (most of which are negative) observed in Table BMUL.TR2.MENTOR may have resulted from specifying in 2018 that mentoring activities are "part of a formal arrangement". The lack of this specification in 2013 may have led respondents to also include informal mentoring activities.

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Chapter 7:
Providing Opportunities for Continuous Development

Continuous professional development is a vital element of the career path of teachers and principals, providing training that can affect both classroom, and school practices. This chapter examines participation rates in in-service training for teachers and principals and discusses the different types of development opportunities available to them. It also reports teachers' views on the characteristics of impactful training. After exploring the content of training activities attended by teachers and principals, it contrasts levels of participation with needs for further training. The chapter concludes by examining barriers to participation in training and the support received by teachers and principals to overcome them.

Highlights

- Participation in some kind of in-service training is commonplace among teachers and principals in the OECD countries and economies participating in TALIS, with more than 90% of teachers and principals attending at least one continuous professional development (CPD) activity in the year prior to the survey.
- The type of training attended by teachers and principals varies across OECD countries and economies participating in TALIS. Only about 40% of teachers participate in training based on peer learning and networking, which is relatively modest compared to participation rates of over 70% in out-of-school types of training, such as attending courses or seminars.
- More than 80% of teachers report that their training had a positive impact on their teaching practices. The characteristics of training that teachers found most impactful are those based on strong subject and curriculum content, collaboration and incorporation of active learning and collaborative approaches to instruction.
- Teachers who report participating in impactful training tend to display higher levels of self-efficacy and job satisfaction. Furthermore, teachers participating in training focused on teaching in diverse classrooms tend to report high levels of self-efficacy in teaching in diverse environments. In addition, teachers participating in training focusing on the implementation of pedagogical practices tend to report a more frequent implementation of effective practices.
- Since more than 70% of teachers already attend training focused on building knowledge (both subject-based and pedagogical), there is not a particularly high need for training of this kind in OECD countries and economies participating in TALIS. Teachers instead report a high level of need for training in advanced information and communication technology (ICT) skills, teaching methods for multicultural/multilingual settings and teaching methods for students with special needs. Both the participation rate and the need for training in these areas have increased over the last five years.
- Principals in OECD countries and economies in TALIS report a great interest in improving both their school organisation and the practices of their teachers, with more than 70% of them attending training to become an instructional and/or pedagogical leader. Their main needs for training range from using data to make informed decisions to improving collaboration among their teachers.
- Around half of teachers and principals report that participation in professional development is restricted by schedule conflicts and a lack of incentives to engage in these activities. While support mechanisms in some TALIS countries and economies are associated with higher participation rates, in other contexts, the support still seems insufficient.

7.1 Introduction

384. A pressing concern of education systems today is to ensure that students acquire the skills and competences they need to succeed in today's society. This task is challenging in our rapidly changing world, where labour instability, migration, demographic transformation and the globalised economy are constantly redefining the needs and demands of society (OECD, 2018[1]). In the face of these changes, teachers must continuously validate and update their skills to help students become competent, competitive and socially integrated adults (OECD, 2005[2]). Education systems have sought to support their teachers by designing, implementing and promoting diverse forms of continuous professional development (CPD) (Akiba, 2013[3]; Villegas-Reimers, 2003[4]).

385. A broad definition of professional development includes activities "that develop an individual's skills, knowledge, expertise and other characteristics as a teacher or principal" (OECD, 2009[5]). This definition encompasses all the stages of training for teachers and principals, ranging from initial education to in-service training opportunities. This chapter examines *continuous professional development*, understood to be activities in the form of in-service training activities beyond initial education and induction programmes.[60]

386. Concepts underlying the idea of effective CPD are based on the assumption that teachers and principals are lifelong learners, with different professional needs through their careers. It is the task of stakeholders and responsible authorities acting within education systems to accurately identify these needs and secure access to relevant training (OECD, 2005[2]). Therefore, it is crucial to identify the type of training that has the greatest impact

on teachers' and principals' practices, the areas where teachers and principals feel the greatest need for training, and the barriers to access.

387. CPD activities allow teachers to develop skills that will be beneficial for their learning, their teaching practices and their students' development (Desimone, 2009[6]; Hattie, 2009[7]). Indeed, effective CPD programmes can have an impact on teachers' skills and dispositions (Borko, 2004[8]; Garet et al., 2016[9]; Youngs, 2001[10]), their classroom practices (Fischer et al., 2018[11]) and their beliefs (Guskey, 2002[12]; Nir and Bogler, 2008[13]; OECD, 2014[14]), and they can help build professional learning communities (Darling-Hammond, Hyler and Gardner, 2017[15]; OECD, 2013[16]). It has even been found that professional development is an effective mechanism to prevent burnout among teachers (Kyriacou, 2001[17]). Teachers' participation in CPD can also have a modest but direct positive impact on boosting student achievement (Yoon et al., 2007[18]) and reducing the performance gap among students (Meissel, Parr and Timperley, 2016[19]).

388. CPD that takes place in the school has been found crucial to create a culture of improvement and to develop a shared vision of learning across the teaching and management staff (Jensen et al., 2016[20]; OECD, 2013[16]). Principals must not only provide opportunities for CPD training but also participate in these activities, to reinforce their managerial and leadership skills (Sparks, 2002[21]; Zepeda, Parylo and Bengtson, 2013[22]; OECD, 2016[23]).

389. Furthermore, CPD activities are a fundamental element for the success of any major educational reform in OECD countries (OECD, 2015[24]). CPD helps teachers acquire the necessary skills to be informed and critical receptors of such policy efforts (Kennedy, 2005[25]). Recent policy reviews have, in fact, identified CPD strategies as a key attribute of high-achieving education systems (Jensen et al., 2016[20]; Darling-Hammond, 2017[26]; OECD, 2018[27]).

390. Given CPD's relevance for improving the teacher and principal workforce, this chapter seeks to provide insights on the participation of teachers and principals in CPD activities. It starts by examining participation rates, the type of training attended by teachers and how these participation rates change based on the characteristics of teachers and schools. Next, it explores the characteristics of training activities that teachers rate as having a positive impact on their teaching and to what extent they are associated with the their self-efficacy and job satisfaction. The chapter then looks at the content of CPD activities attended by both teachers and principals and describes their needs for further training. Finally, the chapter examines the barriers to and overall support for teachers' and principals' participation in CPD activities.

7.2 Providing learning opportunities for teachers and school leaders

391. In-service training, through CPD activities, is an integral part of the professionalisation of the teaching workforce, as it provides teachers with opportunities for further learning and improvement throughout their careers (Guerriero, 2017[28]). The inclusion of participation in CPD as an indicator for the United Nations (UN) Sustainable Development Goals (SDGs) is evidence of the increasing relevance that continuous training has on the development of teachers (United Nations, 2015[29])..

392. More specifically, UNESCO has defined participation in CPD activities as a way to monitor the achievement of Goal 4.c: "By 2030, substantially increase the supply of qualified teachers, including through international co-operation for teacher training in developing countries, especially least developed countries and small-island developing States"[61] (United Nations, 2015, p. 17[29]). The TALIS indicator of participation in CPD activities aligns well with the SDG indicator (see Box 7.1 for details).

Box 7.1: The SDGs and TALIS 2018 indicators for teachers' professional development

The UN SDGs have acknowledged the importance of implementing adequate CPD as a crucial policy lever for ensuring teachers' learning and improvement throughout their career. Consequently, UNESCO defined the following strategy for educational systems: "Review, analyse and improve the quality of teacher training (pre-service and in-service) and provide all teachers with quality pre-service education and continuous professional development and support" (p.54).

To help systems fulfil this strategy, SDG Goal 4.c. encompasses a series of measurable indicators on teachers' work and development. The indicator on professional development, aligned with the TALIS indicator, is defined as: "Percentage of teachers who received in-service training in the last 12 months, by type of training".

In TALIS 2018, the percentage of participation in training is derived from teachers who have at least attended one of the following types of professional development in the 12 months prior to the survey:

- courses/seminars attended in person
- online courses/seminars
- education conferences
- formal qualification programmes
- observation visits to other schools
- observation visits to business premises, public organisations, or non-governmental organisations
- peer and/or self-observation and coaching
- participation in a network of teachers
- reading professional literature
- other types of professional development activities

Through its indicator on professional development, TALIS is committed to helping countries monitor and report their work towards achieving and sustaining the SDGs.

Source: UNESCO (2016[30]), Education 2030: Incheon Declaration and Framework for Action for the Implementation of Sustainable Development Goal 4, UNESCO, Paris, http://uis.unesco.org/sites/default/files/documents/education-2030-incheon-framework-for-action-implementation-of-sdg4-2016-en_2.pdf.

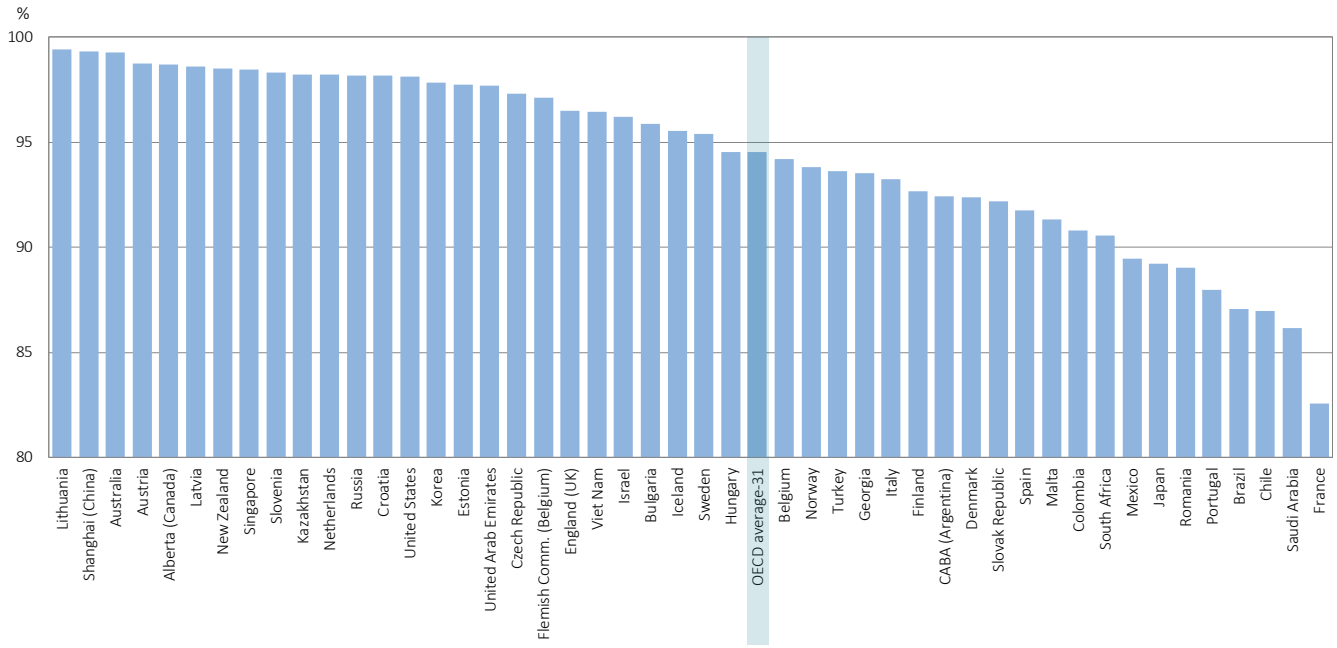
393. This section starts by looking at overall participation in CPD training for both teachers and principals. Next, it assesses whether participation rates differ, examining a series of characteristics of teachers and schools. The section concludes by examining the type of CPD training attended by teachers and principals.

7.2.1 Participation in continuous professional development

394. An indicator for total participation in CPD was constructed from teachers and principals who attended at least one of the ten possible types of training listed in the teacher and principal questionnaires (see Box 7.1). This indicator shows an undeniable spread of participation in professional development across countries and economies. On average across OECD countries and economies,[62] 94% of teachers participated in at least one type of professional development in the 12 months prior to the survey (Figure 7.1). TALIS countries and economies with 99% of teachers participating in CPD are Alberta (Canada), Australia, Austria, Latvia, Lithuania and Shanghai (China). Even countries with comparatively lower shares of teachers participating in CPD, such as France and Saudi Arabia, still show quite high levels of participation.

Figure 7.1: Participation in professional development activities, by teacher characteristics

Percentage of lower secondary teachers who participated in professional development activities [1]



1. Refers to professional development activities in which teachers participated in the 12 months prior to the survey.
Countries and economies are ranked in descending order of the percentage of teachers who participated in professional development activities in the previous 12 months.
Source: OECD, TALIS 2018 Database, Table BIN.TCH.PD_TYPE.

395. For principals, participation in in-service training is almost universal: on average across the OECD, 99% of principals report engaging in these activities. TALIS countries and economies where 100% of principals report that they have participated in at least in one professional development activity in the past 12 months are: Austria, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Italy, Kazakhstan, Latvia, Lithuania, Malta, the Netherlands, New Zealand, the Russian Federation, Shanghai (China), Singapore, Slovenia, Spain, Sweden, the United States and Viet Nam.

396. These results reflect the fact that professional development has become a crucial step in the career paths of both principals and teachers. For teachers, many systems have actually transformed professional development into a mandatory component embedded in the professional career structure for teachers (see Box 7.2).

Box 7.2: Requirements for participation in professional development

CPD is compulsory for lower secondary teachers, either to maintain employment or for promotion/salary increases, in 23 of the 35 participating countries and economies with available data (Figure 7.2).

Policies requiring compulsory participation in CPD may reflect the efforts of a particular system to ensure that every member of their workforce has access to these opportunities. For example, Lithuania, one of only two countries where CPD is mandatory for both maintaining employment and purposes of promotion. It is also the country with the highest share of teachers accessing training activities (Figure 7.1). However, compulsory policies can also signal a highly centralised training system, with little room for teachers' own discretion in choosing the type of CPD that suits their needs and preferences (Scheerens, 2010[32]; Scribner, 1999[33]).

In addition, compulsory policies should not be considered the only way to secure participation in CPD. Singapore does not have a policy of compulsory CPD activities, but it is one of the countries with the highest levels of participation in training (Figure 5.1). One possible explanation is that, in Singapore, CPD is ingrained in the school culture of professional learning. Teachers are given 100 hours per year to invest in training, with guidance for their development decisions and access to teacher networks (OECD, 2011[34]). As a result, CPD activities are more than a mechanism for the renewal or promotion of teachers; they are part of teachers' day-to-day work and regular school tasks.

7.2.2 Participation in continuous professional development, by teacher and school characteristics

397. Given that participation in CPD activities is almost universal in the majority of countries and economies participating in TALIS, the next question is whether there is any difference in CPD participation based on the type of school where teachers are currently working. Regardless of the type of school where they are enrolled, all students should have equal access to well-qualified teachers in order to ensure the quality of the education system as a whole (OECD, 2018[35]). Equitable distribution of CPD opportunities across schools is an important consideration for ensuring equitable provision of quality instruction throughout the education system (Darling-Hammond and Sykes, 2003[36]). Providing learning opportunities to teachers across a wide range of schools ensures that students from different backgrounds benefit from their training.

398. This section also explores whether there is any difference in CPD participation across the socio-demographic characteristics of the teaching workforce. Empirical evidence has found that, in some countries and economies, access to different forms of professional training is associated with teachers' gender and completion of initial training (Barrera-Pedemonte, 2016[37]). As discussed in Chapter 3, teachers' profiles are varied with respect to age, experience and gender. It is relevant to determine if a similar distribution of characteristics can be observed for teachers participating in CPD training. Finally, this section concludes with an exploration on the association of teachers' motivation to become a teacher and their participation in different forms CPD activities.

399. Regarding differences in participation based on school characteristics, it is reassuring to observe from TALIS results that, in the vast majority of countries and economies, there are no significant differences in CPD participation across school types, locations or socio-demographic composition. These results may reflect that, for the most part, the characteristics of the school where teachers work do not translate into barriers to participation.

400. However, for a few selected countries, some interesting patterns are worth highlighting. In Chile, teachers in schools with a relatively high concentration of students from socio-economically disadvantaged homes (over 30%) display a higher level of participation in CPD opportunities than teachers in schools with lower concentrations of students from socio-economically disadvantaged homes. Brazilian teachers in schools with a relatively high concentration of students with special needs (over 10%) participate more in CPD training than colleagues from schools with low concentrations of students with special needs. Teachers in these types of schools experience more teaching and learning challenges than those in other schools, as they serve a vulnerable student population. This may push teachers to seek additional training (Choy et al., 2006[38]).

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401. Regarding socio-demographic differences in accessing CPD activities, in general across the OECD average, there are no major differences in CPD participation by teachers' gender, age or experience. These outcomes echo the results found in the 2013 cycle of TALIS: gender, experience, school type and location were significant factors of participation for only a few countries. Although, on average across OECD countries and economies, female teachers participate more frequently in in-service training than their male colleagues and more experienced teachers participate more often than novice teachers, these differences are marginal (around 1 percentage point).

402. Another key teacher characteristic acting as a driver for teachers' participation in CPD training is their level and type of motivation for their work (Scribner, 1999[33]). Educational systems have usually made use of career progression incentives (i.e. promotion, salary increases, bonuses) to promote participation in CPD training (OECD, 2013[39]). Although these incentives have shown a degree of success, they run the risk of transforming CPD training into just a means to ensure work stability. Moreover, "external" intervention to improve performance, such as financial incentives, can actually decrease participation, since they could be perceived as controlling programmes that are disruptive to teachers' work (Jacobsen, Hvitved and Andersen, 2014[40]). Empirical research has found that a heavy reliance on external rewards, such as monetary incentives, can actually affect the intrinsic motivation of employees, specifically their need for relatedness, competence and autonomy (Kohn, 1998[41])

403. Participation in CPD is driven not only by this "utilitarian" view, but also by a genuine desire among teachers to get better skills to help and support their students (Scribner, 1999[33]). Public service motivation – that is, motivation aimed at doing good for others and society (Hondeghem and Wise, 2010[42]) – can improve individual performance in the workplace, as it increases teachers' commitment to and engagement with their tasks (Andersen, Heinesen and Pedersen, 2014[43]). People showing high levels of public service motivation are willing to make extra efforts to improve the quality of their work, as they perceive that the outcomes have implications for the improvement of others and of society as a whole (Perry and Wise, 1990[44]). Under the frame of CPD participation, these extra efforts related to work could be interpreted as participation in in-service training. As such, it is relevant to observe how different types of motivation relate to participation in CPD training.

404. The following analysis examines the regression results of the relationship between their motivation to become teachers and their participation in a number of different CPD activities. The 2018 cycle of TALIS asked teachers about their main motivations for becoming a teacher (see Chapter 4 for a detailed description of the results). Two indices were constructed from teachers' answers: a personal utility value index and a social utility value index. The personal utility value index includes motivations for being a teacher such as "teaching offered a steady career path" and "teaching provided a reliable income". The social utility value index, aligns with the public service motivation concept, as it includes motivations such as "teaching allowed me to influence the development of children and young people" and "teaching allowed me to benefit the socially disadvantage".

405. On average across the OECD, individuals with higher values in the social utility index (teachers who were motivated to become teachers because of the social contribution teaching represented) tend to participate in more CPD activities. This holds true for all countries and economies participating in TALIS except Alberta (Canada), Saudi Arabia and South Africa. Inversely, the relationship between teachers' personal utility motivations to enter their careers and their level of participation in CPD activities is statistically significant in only about a quarter of TALIS countries and economies. Furthermore, no clear pattern can be identified within this group since, in 6 of these countries and economies, teachers with higher values in the personal utility index are more likely to participate in more CPD activities while, for the 7 other countries, teachers with higher values in the personal utility index report participating in fewer CPD activities.

406. These results stress the importance of societal motivation for teachers to participate in further training. Even more, teachers' social utility motivation can be affected and encouraged by management staff (Jacobsen, Hvitved and Andersen, 2014[40]). As such, school and management staff should have the responsibility to nourish this intrinsic motivation, while governments and institutions providing CPD training should take into account these motivational aspects when seeking to promote participation across teachers and designing corresponding incentives.

7.2.3 Types of continuous professional development training

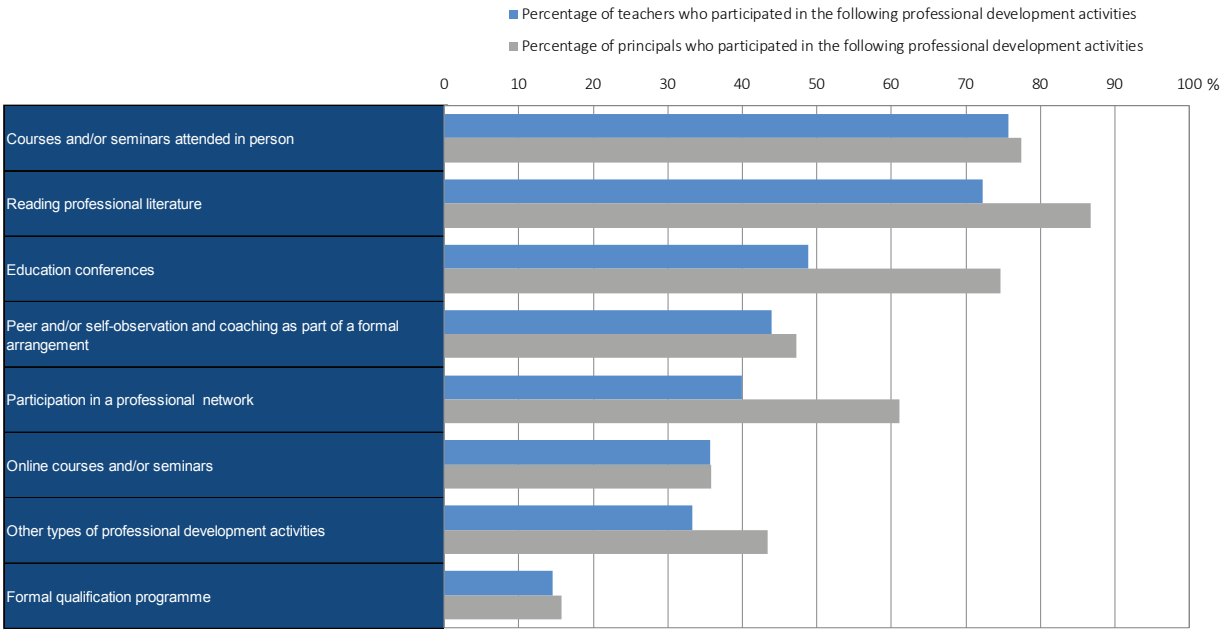
407. The breakdown of the TALIS indicator for CPD participation presents relevant information about the format of this training (see Box 7.3 for the ten types of CPD activities). These formats range from formally structured activities (e.g. conferences, workshops, participating in a formal qualification programme) to informal activities (e.g. networking, within-school peer collaboration, reading professional literature) (Avalos, 2011[45]).

408. The literature indicates that training is potentially more effective when teachers are able to participate in a wide range of formats (Jensen et al., 2016[20]; Hoban and Erickson, 2004[46]; Scheerens, 2010[32]). Some formats, such as participation in courses or seminars or reading professional literature, may develop knowledge-based skills (Hoban and Erickson, 2004[46]), while others, like participation in professional networks or coaching, foster collaborative and social skills (Kraft, Blazar and Hogan, 2018[47]). These characteristics help to build a more rounded profile of teachers and principals (Chen and McCray, 2012[48]).

409. On average across the OECD, teachers attended about four different types of CPD activities in the 12 months prior to the survey. There are important cross-country variations across TALIS countries and economies regarding the number of activities in which teachers participate. On average, teachers attend six different CPD activities in Kazakhstan, Lithuania, the Russian Federation and Shanghai (China), but less than three activities in Chile, France and Portugal. Participation in multiple forms of CPD is higher for principals. On average across the OECD, principals participated in about six different forms of CPD training in the 12 months prior to the survey. On average among TALIS countries and economies, principals in Kazakhstan, Korea, the Russian Federation and Shanghai (China) attended more than seven different types of training, while principals in France and Japan attended less than five activities.

Figure 7.3: Type of professional development attended by teachers and principals

Results based on responses of lower secondary teachers and principals (OECD average) [1] [2]



410. As was the case for TALIS 2013 results (OECD, 2014[14]), participation in these forms of CPD varies considerably across participating countries and economies. In Australia, Austria, Latvia, Lithuania, Singapore and Slovenia, over 90% of teachers participate in “courses/seminars attended in person”, while less than or equal to 50% of teachers do so in France, Japan and Romania. In Alberta (Canada), Croatia, Latvia, the Russian Federation and Shanghai (China), equal to or more than 70% of teachers participate in “education conferences where teachers

and/or researchers present their research or discuss educational issues", while less than 30% of teachers do so in the Czech Republic, Georgia, Saudi Arabia and the Slovak Republic. Finally, in Croatia, Estonia, Lithuania, the Russian Federation, Shanghai (China), Slovenia and Viet Nam, 90% or more of teachers engage in "reading professional literature", but less than 50% do so in Chile, France, Italy, Malta, Saudi Arabia and Spain.

411. Attendance at courses and seminars has often been criticised as a traditional approach to teachers' development, since such programmes tend to view teachers as passive recipients of knowledge rather than co-constructors of their own development (Avalos, 2011[45]; Clarke and Hollingsworth, 2002[49]). Although these types of programmes are necessary and have been found to be effective in providing teachers with the content and subject knowledge required to improve their skills (Hoban and Erickson, 2004[46]), they are usually disconnected from the context of the schools where teachers work and from the daily reality of their classrooms (Borko, 2004[8]).

412. Instead, critics have proposed a school-embedded approach to CPD activities. School-embedded professional development is able to incorporate the teaching experience, the school context and teachers' collegiality to improve teachers' instruction (Borko, 2004[8]; Opfer, 2016[50]; Opfer and Pedder, 2011[51]). CPD training is more likely to affect teaching practices if teachers can relate the content of their training to their everyday work in their schools and classrooms. Furthermore, since school-embedded professional development relies on capacities and know-how within schools (e.g. school climate, networking, quality relationships), it can be a cost-efficient way to support teachers and principals (Kraft, Blazar and Hogan, 2018[47])

413. On average across the OECD, participation in school-embedded professional development is lower than in traditional approaches to training. This is the case for "peer and/or self-observation and coaching as part of a formal school arrangement" (44%) (Figure 7.3). "Peer/self-observation and coaching" is an effective form of collaboration among teachers that is embedded in the school culture (OECD, 2016[23]). It can be part of regular school tasks requiring the involvement of all members of the school community (Borko, 2004[8]; Villegas-Reimers, 2003[4]). Indeed, evidence has shown that teachers who engage in collaboration at their work are more receptive of further CPD activities (Loxley et al., 2007[52]). Like the other types of CPD described, "peer/self-observation and coaching" shows a great degree of cross-country variation in participation, ranging from more than 85% of teachers in Kazakhstan, Shanghai (China) and the United Arab Emirates to less than 20% of teachers in Finland, France and Spain. Box 7.3 describes initiatives from Brazil and South Africa of CPD activities that are anchored in a coaching approach.

Box 7.3: Coaching as an effective form of professional development: Evidence from South Africa

South Africa

An experimental study from South Africa compared the effects of two forms of in-service teacher development on changes in primary education teachers' practices and student outcomes. The two forms of professional development were: 1) training at a centralised venue (training); and 2) classroom visits by coaches who observe teaching, provide feedback and demonstrate corrective actions (coaching). In addition, both of these forms of professional development included complementary resources, such as grade-reading booklets and lesson plans. The results showed that teachers whose professional development was in the form of coaching were more likely to implement "group-guided reading" (a difficult strategy to put in place) than teachers whose professional development was in the form of training or teachers who did not receive either form of professional development. Furthermore, students whose teachers received professional development in the form of coaching improved their reading proficiency by a considerable margin compared to teachers who participated in professional development in the form of training. The results show that a structured pedagogical programme based on in-person coaching was instrumental in enabling teachers to effectively use the resources available to them and inducing behavioural change in their instructional practices.

Source: Cilliers et al. (2019[54]), "How to improve teaching practice? An experimental comparison of centralized training and in-classroom coaching", 10.3368/jhr.55.3.0618-9538r1

414. TALIS shows a mixed global trend on whether experienced or novice teachers participate more frequently in "Peer/self-observation and coaching". The share of less experienced teachers participating in this type of training is significantly lower than among their more experienced counterparts in 9 countries and economies. However, in 11 countries and economies, the share of novice teachers participating in "peer/self-observation and coaching" is significantly higher than among more experienced teachers. For these 11 countries and economies, the difference could be explained by the fact that training in the form of coaching and peer-observation is often an element of induction or mentoring initiatives. Indeed, as shown in Chapter 4, "supervision by the school principals and/or experienced teachers" and "networking or collaborating with other teachers" are among the most common provisions of induction report by teachers. Also, novice teachers, especially if they are new to a school, may be more inclined to request support from management staff and/or experienced teachers (OECD, 2017[55]).

415. Like school-embedded professional development, participation in professional networks has also been identified as an innovative and effective form of professional development (Trust, Krutka and Carpenter, 2016[56]). This type of training creates a collegial environment, where teachers and principals are encouraged to collaborate and share ideas. Networking opportunities allow for co-construction of knowledge, provide support that better fits the actual needs of teachers and encourage pedagogical innovation (Paniagua and Istance, 2018[57])[63].

416. However, on average across the OECD, only 40% of teachers state that they participated "in a network of teachers formed specifically for the professional development of teachers" (Figure 7.3). Among TALIS countries and economies, at least 65% of teachers participate in networks in Kazakhstan, Korea, the Russian Federation, Singapore, the United Arab Emirates and Viet Nam, while less than 25% do so in Austria, CABA (Argentina), Chile, the Czech Republic, Portugal, the Slovak Republic and Spain. Results indicate that, for 20 countries and economies, experienced teachers participate more in this type of training than novice teachers. This could be explained by the fact that networks rely on professional contacts that are acquired with years of experience at work. However, novice teachers participate more in networks than their more experienced counterparts in Alberta (Canada), England (United Kingdom), Malta and Shanghai (China).

417. Among principals, as for teachers, the most frequent types of CPD activities are: "reading professional literature" (87%); "courses and/or seminars attended in person" (77%); and "education conferences where teachers, principals and/or researchers present their research or discuss educational issues" (75%) (Figure 5.3). Comparing the participation of teachers and principals in each type of training reveals that teachers participate less than principals in every form of CPD. It is interesting to observe that, for some types of training, the share of principals' participation is quite high compared to that of teachers. That is the case of participation in "education conferences" (75% of principals compared to 49% of teacher) and "participation in a network formed specifically for their professional development" (61% of principals compared to 40% of teachers). For professional development networks, the difference could be because school leaders have more years of experience than teachers and have thus accumulated more professional contacts to network with (Sparks, 2002[21]). In Croatia, Israel, Kazakhstan, Korea, the Netherlands, the Russian Federation, Singapore and Slovenia, at least 80% of principals have participated in professional networks. Participation of principals in "peer/self-observation and coaching" is lower (47%). However, in Hungary, Kazakhstan, Korea and the Russian Federation, more than 80% of principals have participated in coaching.

418. Overall, it seems that principals are given more opportunities than teachers for in-service training or take greater advantage of it. This can be observed through wide gaps of participation in certain types of activities (participation in networks and education conferences), the fact that principals participate in more CPD activities than teachers (on average, four activities for teachers compared to six activities for principals) and that overall participation in CPD is higher for principals (95% of teachers compared to 99% of principals (see section 7.2.1)[64].

7.3 Exploring impactful forms of professional development

419. Around the world, education systems strive to find the most cost-effective mechanisms to deliver professional training (Kraft, Blazar and Hogan, 2018[47]). As a result, there is high policy interest in assessing whether participation in CPD is affecting teaching practices and student achievement and whether some types of activities are more effective than others (Desimone, 2009[6]; Hattie, 2009[7]; Ingvarson, Meiers and Beavis, 2005[58]; Timperley et al., 2007[59]; Yoon et al., 2007[18])

420. TALIS provides evidence of the impact of CPD activities by giving teachers the opportunity to voice their opinions on their training. This section starts by describing the share of teachers who report a positive impact of their training activities and the extent to which this perceived impact is associated with three professional outcomes of teachers: self-efficacy, job satisfaction and cognitive activation practices. It then discusses the characteristics that made the training effective.

7.3.1 Impact of continuous professional development activities

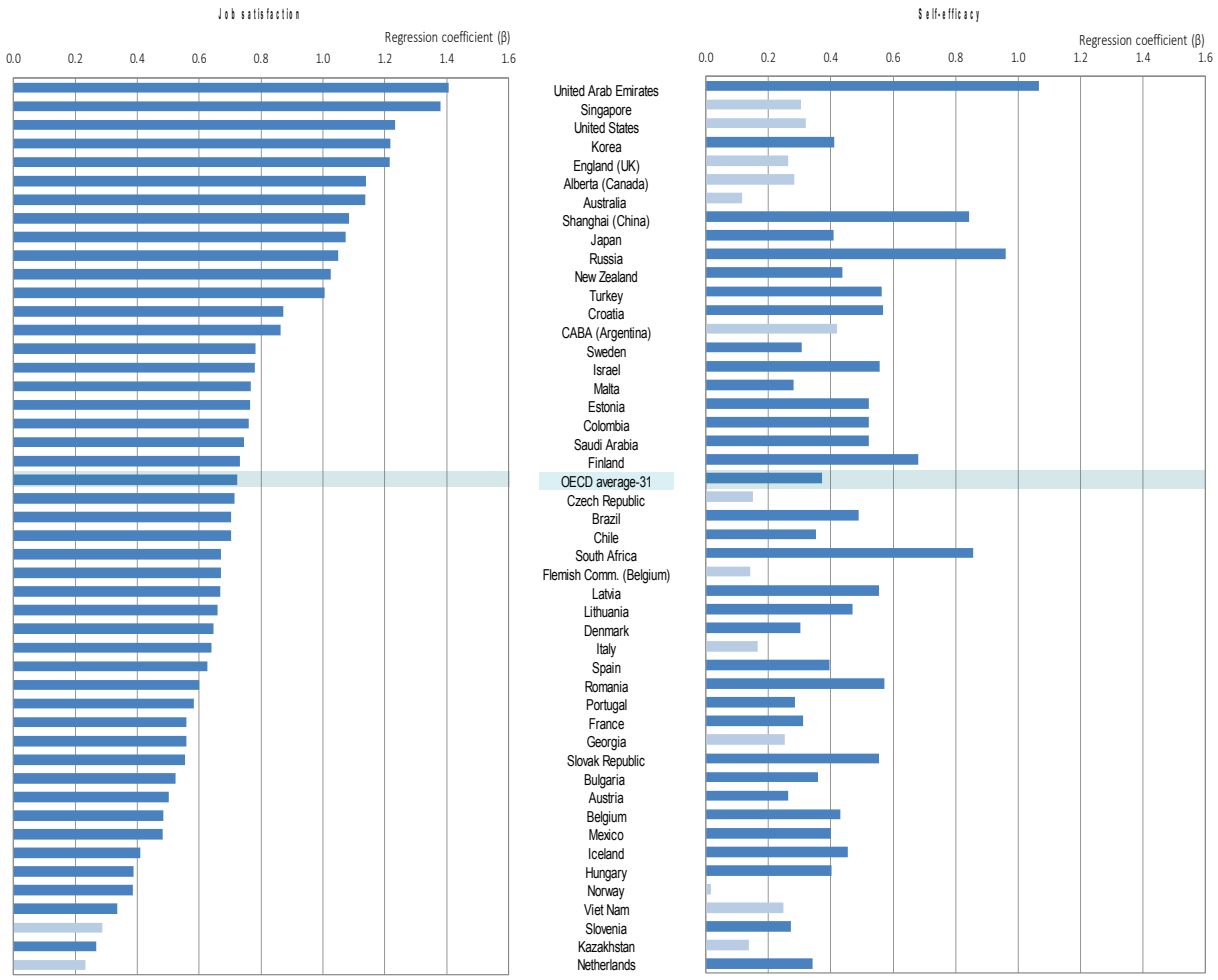
421. Teachers were asked whether any of the CPD activities they took in the 12 months prior to the survey had an impact on their teaching practices. It is important to ask teachers themselves about the impact of their training, as they need to understand and believe that their training matters for CPD activities to be effective (Scribner, 1999[33])

422. On average across the OECD, 81% of teachers report a positive impact on their teaching practices from their participation in CPD activities. However, there are important cross-country variations among TALIS countries and economies. More than 90% of teachers report that their training had a positive impact on their teaching practices in Alberta (Canada), Australia, CABA (Argentina), Japan and Singapore. Inversely, less than 75% of teachers report a positive impact in Belgium, Bulgaria, Denmark, France, Hungary, Malta, Saudi Arabia, Sweden and Turkey.

423. Previous OECD research has shown that CPD activities not only provide teachers with necessary skills, but also improve their sense of confidence and satisfaction (OECD, 2014[60]; OECD, 2016[61]). As such, by boosting both self-efficacy and job satisfaction, CPD activities can also be effective mechanisms for retention of teachers. TALIS 2018 results shows that, on average across the OECD, teachers who state that their training in the 12 months prior to the survey had an impact on their teaching practices have higher levels of job satisfaction than those teachers reporting that their training had no impact on their teaching practices (Figure 7.4). This holds true for 47 TALIS countries and economies. The association is particularly strong in England (United Kingdom), Korea, Singapore, the United Arab Emirates and the United States.

Figure 7.4: Relationship between teachers' job satisfaction and self-efficacy and participation in impactful professional development

Change in the index of self-efficacy [1] and the index of job satisfaction associated with having participated in impactful professional development [2 3 4]



1. The index of self-efficacy measures teacher self-efficacy in classroom management, instruction and student engagement.
2. Results of linear regression based on responses of lower secondary teachers.
3. The predictor is a dummy variable: the reference category is professional development acitivities in the 12 months prior to the survey did not have a positive impact on teaching practice.
4. Controlling for the following teacher characteristics: gender, working full-time, years of experience as a teacher; and for the following classroom characteristics: share of low academic achievers, share of students with behavioural problems and class size.

Note: Statistically significant coefficients are marked in a darker tone.

Countries and economies are ranked in descending order of the change in the index of self-efficacy associated with having participated in impactful professional development.

Source: OECD, TALIS 2018 Database, REG.OLS.T3JOBSA_EFPDEV_v3 and REG.OLS.T3SELF_EFPDEV_v3.

424. Regarding the relationship with self-efficacy, on average across the OECD, it can be observed that teachers who state that their training in the 12 months prior to the survey had an impact on their teaching practices have higher levels of job satisfaction. It is possible to observe this positive association in 35 TALIS countries and economies, with the Russian Federation, Shanghai (China), South Africa and the United Arab Emirates showing the strongest association (Figure 7.4).

425. Although caution against causal arguments is recommended, these results may hint that teachers who report a positive impact from their training also tend to be more content with their work, have stronger confidence in conducting their classroom instruction and more frequently implement effective practices. As such, these results add evidence of the importance of professional development for increasing teachers' level of satisfaction with their work and boosting their self-confidence.

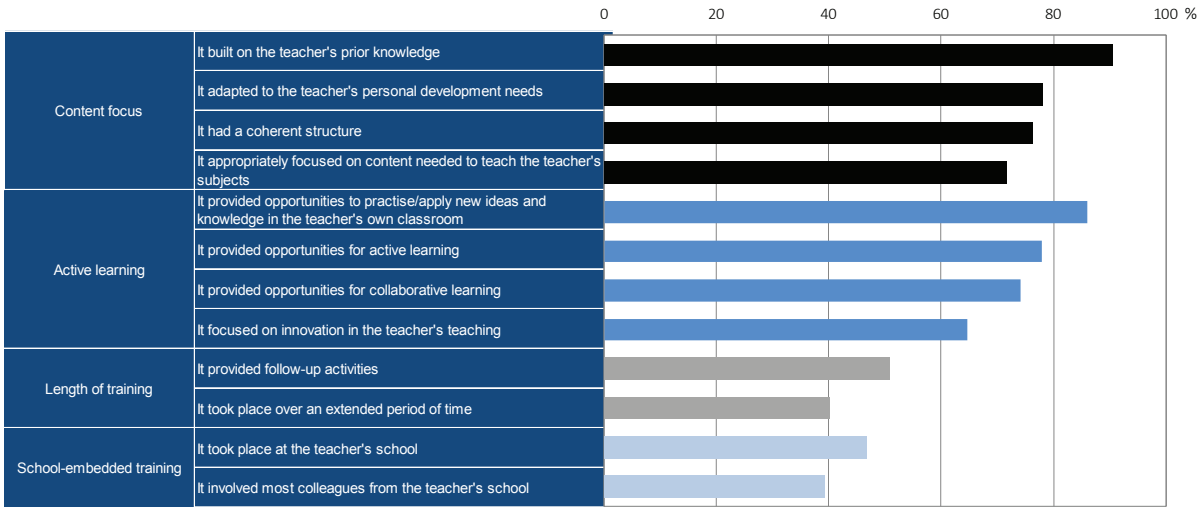
7.3.2 Characteristics of impactful continuous professional development activities

426. Identifying the characteristics or combinations of characteristics that define effective CPD activities is one of the major policy challenges in ensuring continuous quality training. Policy reviews often tend to highlight the limited effects of professional development programmes on teacher practices by criticising flaws of design or adequacy (Garet et al., 2001[62]). TALIS makes it possible to ask the professionals who participate in this training – teachers themselves – about the characteristics of the programme that had the largest positive impact on their teaching. Teachers were asked to select the pertinent characteristics from a list of 12 elements identified in the specialised literature as key attributes of effective training. These characteristics were classified into four comprehensive and distinctive groups; "content quality", "active learning and collaboration", "sustained length" and "school-embedded approach" (Figure 5.5). Only teachers who reported that their training had a positive impact were asked to rate these characteristics (82% of the original sample from TALIS countries and economies) .

427. Among teachers reporting that their training had a positive impact, one of the most frequent characteristics mentioned relates to the content of the training. The specialised literature agrees that effective CPD programmes should be content-driven, with strong subject- and curriculum-based components that help teachers have a better grasp of their subject (Borko, 2004[8]; Guskey and Yoon, 2009[63]). These programmes should also take into account the experience and be consistent with the previous knowledge and learning experiences of teachers, along with their specific needs for training (Desimone, 2009[6]). Furthermore, it is important that the training have a coherent structure connecting the previous experience of teachers with classroom practices and measurable outcomes (Clarke and Hollingsworth, 2002[49]). On average across the OECD, among teachers who found their training impactful, such characteristics correspond to four elements: 1) "built on the teacher's prior knowledge" (91%); 2) "adapted to the teacher's personal development needs" (78%); 3) "had a coherent structure" (76%); and 4) "appropriately focused on content needed to teach the teacher's subjects" (72%) (Figure 7.5). TALIS countries and economies displaying, on average, the highest share of teachers reporting these four content-related characteristics as part of their impactful training are Shanghai (China), South Africa and Viet Nam, while Bulgaria and Japan have the lowest share of teachers reporting these characteristics as part of their training.

Figure 7.5: Characteristics of effective professional development, according to teachers

Percentage of lower secondary teachers for whom the most effective professional development activities had the following characteristics [1] (OECD average-31)



1. Includes teachers who report on the professional development activity that had the greatest positive impact on their teaching in the 12 months prior to the survey. Teachers declaring that none of the professional development taken in the last 12 months had a positive impact in their teaching practice were filtered out and are not covered in the figure.
Values are ranked in descending order of the characteristics of the most effective professional development activities as reported by teachers.
Source: OECD, TALIS 2018 Database, Table BMUL.TCEXP.PD_CHARAC.

428. Another set of characteristics mentioned by teachers who found their training impactful relates to active learning and collaboration. Active learning refers to pedagogical approaches that put learners at the centre of instruction (OECD, 2014[14]). Policy reviews and research literature have recommended incorporating this approach into CPD training, as it envisions teachers as co-constructors of their own learning and provides interactive strategies to contextualise teaching instruction to their local settings (Desimone, 2009[6]; Garet et al., 2001[62]; Villegas-Reimers, 2003[4]). In addition, a crucial component of active-learning approaches is collaboration between peers (OECD, 2014[60]). Collaboration incentivises peer learning and coaching modalities that allow for a more flexible and efficient learning experience for teachers. (Avalos, 2011[45]; Cordingley et al., 2003[64]; Jensen et al., 2016[65]). Collaboration is often considered a more cost-effective approach to professional development than other initiatives, such as courses or seminars, since it allows for teachers' learning to be based on informal networking within schools (Trust, Krutka and Carpenter, 2016[56])

429. On average across the OECD, among teachers who report that their training was impactful, the characteristics of this dimension were that the training: 1) "provided opportunities to practise/apply new ideas and knowledge in [their] own classroom" (86%); 2) "provided opportunities for active learning" (78%); 3) "provided opportunities for collaborative learning" (74%); and 4) "focused on innovation in [their] teaching" (65%) (Figure 7.5). Among the TALIS countries and economies with the highest concentration of teachers reporting on average these four characteristics of active learning and collaboration as part of their impactful training are Colombia, South Africa, the United Arab Emirates and Viet Nam. The countries and economies with the lowest share of teachers reporting these characteristics as part of their impactful training were the Czech Republic, Denmark, Japan and Iceland.

430. Sustained length of professional development has been identified as one of the main characteristics of CPD programmes that have been able to affect teaching practices (Darling-Hammond, Hyler and Gardner, 2017[15]; Desimone, 2009[6]; OECD, 2014[14]; Villegas-Reimers, 2003[66]). Across OECD countries and economies, among teachers who reported impactful training, only 40% of teachers report that their CPD "took place over an extended period of time", and only 51% report that "it provided follow-up activities" (Figure 7.5). TALIS countries and economies with a comparatively higher share of teachers reporting characteristics of sustained length as elements of their impactful training are Israel and Viet Nam, while Belgium), France and Japan are among the systems with the lowest share of teachers reporting these elements as part of their training.

431. As discussed in the previous section, offering CPD activities in the teacher's school is another key attribute of effective CPD (Opfer, 2016[50]). Since school context and teacher background characteristics shape classroom practices, they should be ingrained in the content of effective CPD (Fischer et al., 2018[67]). On average across the OECD, only 47% of teachers report that their training "took place at the teachers' school", and only 39% that "it involved most colleagues from the teacher's school" (Figure 7.5). TALIS countries and economies with an exceptionally high share of teachers reporting school-embedded characteristics as part of their impactful training are, the United Arab Emirates and Viet Nam, while Austria, Croatia, France and Hungary are among the countries and economies with the lowest share of teachers reporting these characteristics.

432. It is interesting to observe the relatively low reporting of characteristics related to sustained length and school-embedded professional development. It may be that these characteristics were not present at all in their training or that teachers did not consider these attributes as impactful training. Yet, what these results show clearly is that teachers more frequently mention characteristics linked to content, active learning and collaboration than those linked to sustained duration or school-embedded approaches as the main attributes of training that had the most impact for them.

Box 7.4: Characteristics of effective continuous professional development activities from primary to upper secondary education.

Across OECD countries and economies, teachers report that the most effective professional development activity is content driven: "built on the teacher's prior knowledge" (91%); "provided opportunities to practise/apply new ideas and knowledge in the teacher's own classroom" (86%); or "adapted to the teacher's personal development needs" (78%) . The proportion of teachers reporting these characteristics as elements of an impactful professional development tends to decrease as the level of education they teach rises. Depending on characteristic concerned, in 7 to 8 out of 13 countries and economies with available data for ISCED 1 and 2, teachers at the primary level are more likely than their peers at the lower secondary level to signal one of the content-driven components of CPD as an important characteristic of effective training. Moreover, in 9 to 10 countries and economies, CPD providing "opportunities for collaborative learning" or "follow-up activities", as well as CPD involving "most colleagues from the teacher's school" are more often highlighted as effective by primary teachers than their lower secondary peers.

The views of upper secondary teachers on the important characteristics of CPD tend to be more similar to those of lower secondary teachers in the 11 countries and economies with available data for ISCED 2 and 3. However, there are still some slight differences. For instance, in 7 out of 11 countries and economies with available data for ISCED 2 and 3, the share of teachers highlighting the importance of the provision of "opportunities to practise/apply new ideas and knowledge in the teacher's own classroom" decreased between the lower and upper secondary level.

7.4 Exploring the content of professional development and the need for it

433. Collecting information about the content of the CPD activities attended by teachers and principals can provide policy makers with valuable information on issues teachers face in their schools and classrooms. In addition, identification of needs is a crucial prerequisite for implementation of effective professional development, as it allows for the design of training opportunities aligned to teachers' requests (Opfer and Pedder, 2011[51]). This section provides information on both of these areas. After describing the content of training and the specific needs for further development, it assesses whether participation in training on certain topics or the need for it are related to differences among teachers and school characteristics. This is followed by an analysis of changes over time in CPD content and needs and an examination of how participation in specific CPD content is associated with self-efficacy and practice implementation.

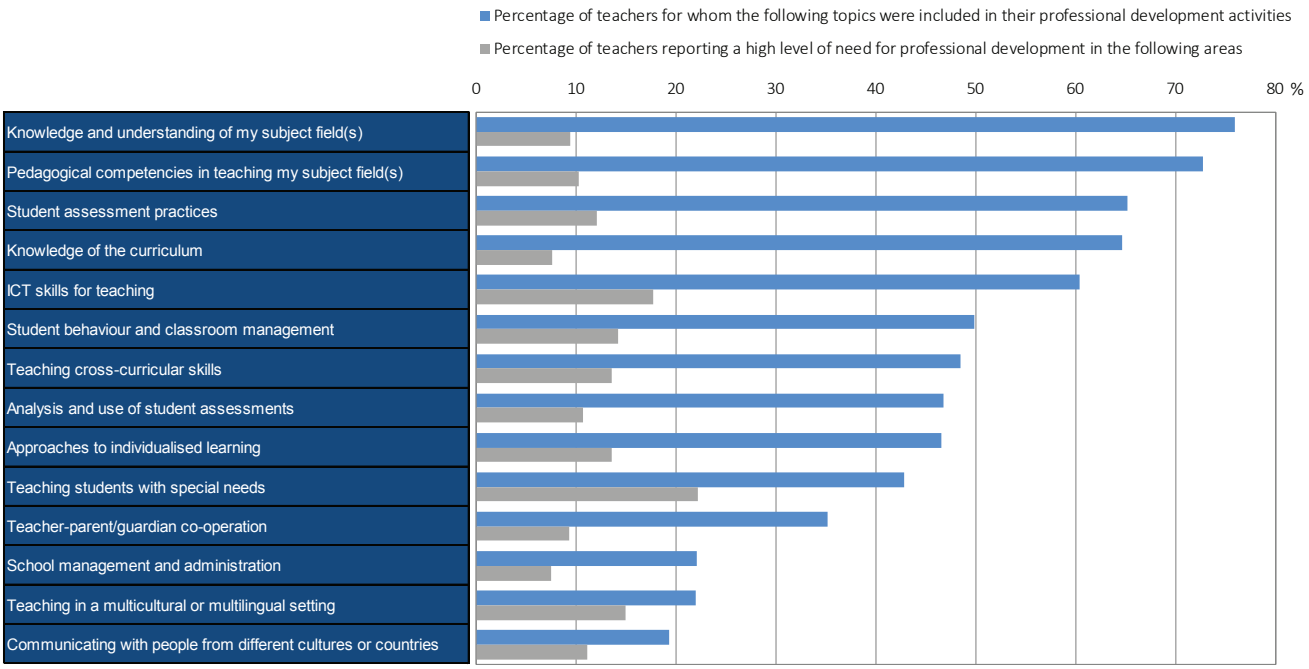
7.4.1 Content of teachers' training and need for it

434. TALIS asked all teachers who participated in at least one training activity to select from a list of 14 items the topics that were covered in their CPD activities. For each of the items, teachers were also asked to indicate their level of need for training, choosing among: "no need"; "low level of need"; "moderate level of need"; and "high level of need" (Figure 7.6). On average across OECD countries, teachers tend to take part in subject- or content-oriented CPD activities that focus on specific subject areas, pedagogy of the subject and general pedagogic topics. Participation is less frequent for CPD programmes focusing on practical skills and tools to address concrete situations in their classrooms.

435. On average across the OECD, teachers report more frequent participation in CPD activities consisting of "knowledge and understanding of my subject field(s)" (76%) and "pedagogical competencies in teaching my subject field(s)" (73%) (BMUL.TCEXP.PD_CONTENT). More than 90% of teachers report participating in training on each of these topics in Latvia, Shanghai (China) and Viet Nam These two topics also concentrated the highest share of teachers in the 2013 cycle of TALIS (OECD, 2014[14]). A possible explanation for the popularity of these programmes is that CPD training is often linked with large-scale educational reforms that have put forward changes in subject and pedagogical content (Avalos, 2011[45]; Kennedy, 2005[25]; Little, 1993[68]).

Figure 7.6: Participation in professional development for teachers and need for it

Results based on responses of lower secondary teachers (OECD average-31)



Note: ICT (Information and communication technology)
Values are ranked in descending order of the percentage of teachers for whom the following topics were included in their professional development activities.
Source: OECD, TALIS 2018 Database, Table BMUL.TCEXP.PD_CONTENT and Table BMUL.NO.PD_NEED.

436. At the low end of participation rates are CPD activities covering "teaching in a multicultural or multilingual setting" (22%) and "communicating with people from different cultures or countries" (19%) (Figure 7.6). These results may reflect the struggle of education systems to tackle increased diversity related to the expansion of educational coverage and migration fluxes (OECD, 2010[69]). In fact, countries with a longer tradition of tackling instruction in diverse settings have comparatively higher rates of participation in multicultural or multilingual training (OECD, 2015[70]). That is the case in Alberta (Canada), New Zealand, Shanghai (China), South Africa, the United Arab Emirates, the United States and Viet Nam, where more than 40% of teachers participate in these activities. Teachers in the United Arab Emirates show exceptionally high participation, with 65% reporting participating in multicultural or multilingual training. [65]It is particularly relevant to explore the high need for CPD, because it provides access to first-hand knowledge of the training requests of teachers. On average, across the OECD, the three areas where large shares of teachers report a high need are: "teaching students with special needs" (22%); "ICT skills for teaching" (18%); and "teaching in a multicultural or multilingual setting" (15%) (Figure 5.6). The highest share of teachers was concentrated on the same needs in the 2013 cycle of TALIS (OECD, 2014[14]). These results on "teaching students with special needs" and training to "teach in a multicultural or multilingual setting" could reflect the pressure and the demands on teachers to teach in increasingly diverse classrooms[66] (UNESCO, 2016[30]; OECD, 2018[1]). In particular, the recent migration crisis has affected the school composition of several European OECD countries. A few of them, like Italy and Spain, which were traditionally countries from which immigrants originated, have become destination countries for immigrants (OECD, 2018[71])

437. The need for training for "teaching special needs students" seems to be particularly urgent in Latin American countries, since all of the five TALIS participants from that region show exceptionally elevated shares of teachers reporting high needs: Brazil (58%); Colombia (55%); Mexico (53%); Chile (38%); and CABA (Argentina) (36%). High values can also be observed for Japan (46%) and South Africa (39%), as well as Croatia (36%), Romania (35%) and France (34%). Almost the same group of Latin American countries, with the exception of CABA (Argentina), also exhibit the highest values for needs in "teaching in multicultural and multilingual settings". There may be two explanations for the high priority of needs in these areas in Latin American. First, in recent decades there has been a proliferation in the region of inclusive school programmes targeted at building more diverse classrooms, which have translated into an increasing need for teachers to get training on managing diverse

classrooms (OECD, 2016[72]; OECD, 2018[73]; Santiago et al., 2017[74]). Second, countries in Latin America have recently seen a notable increase in the cultural diversity of their classrooms, due to the recent influx of migrants (OECD, 2015[70]).

438. Incorporation of information and communication technologies (ICT) into the classroom is another of the major challenges currently facing education systems (OECD, 2018[1]). OECD results have shown that being exposed to technology will not improve student learning without the mediation and training of teachers (OECD, 2015[75]). Training in this area seems to be a major request for Vietnamese teachers, as 55% of teachers in Viet Nam report a high need for training in ICT. Other TALIS countries and economies showing high shares of teachers reporting high needs in this area are: Japan (39%); Colombia (34%); Georgia (33%); South Africa (32%); Shanghai (China) (30%) and Kazakhstan (30%).

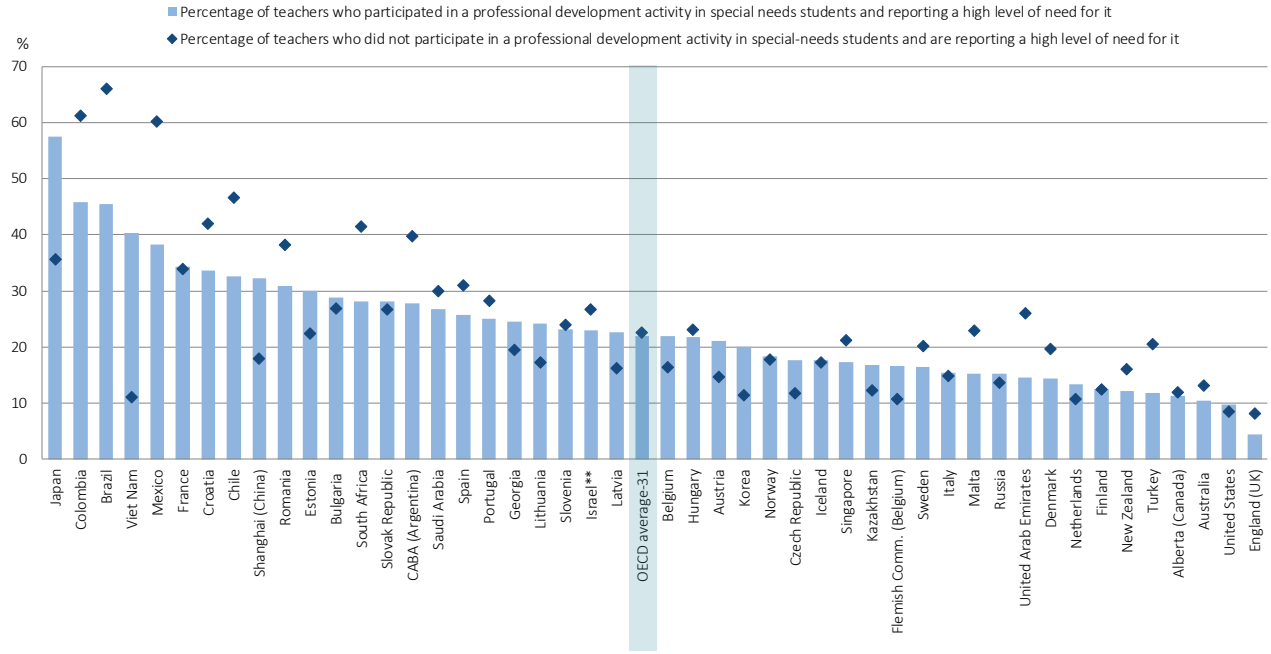
439. The contrast between shares of participation and shares of high need for CPD activities allows for further insights (Figure 5.6). Topics with high shares of participation also display lower shares of high need, such as: training in "knowledge and understanding of my subject field(s)" (9% of teachers report a high need, while 76% report having participated in this training); and "pedagogical competencies in teaching my subject field(s)" (10% report a high need, while 73% report having participated in this training). Inversely, topics such as "teaching in a multicultural and multilingual setting" display low levels of participation but comparatively high levels of need (15% of teachers report a high level of need in this area while 22% report participated in training). A possible explanation is that topics with the highest levels of participation are also those with lower levels of need, as participation in a single session of CPD could satisfy the need, and no more demand for it would be observed.

440. However, one group of topics shows relatively high levels of participation (above 40%) and high levels of need (equal or above 14%): "ICT skills for teaching"; "student behaviour and classroom management"; "teaching cross-curricular skills"; "approaches to individualised learning"; and "teaching students with special needs".[67] High participation and high need for a given topic may be explained by a desire for further development, even if teachers have already participated in training on that topic. So high need for training on a specific topic should not be interpreted solely as a lack of participation in training on that topic (Cooc, 2018[76]). Teachers may want more training on a topic they have already explored because they were dissatisfied with the quality of their original training or they want to invest more time in it.

441. In order to further explore the relation between in-service training participation and needs, TALIS explored for the three areas with highest needs ("teaching students with special needs", "teaching in a multicultural or multilingual setting" and "ICT skills for teaching") whether the need for them are equally prevalent between teachers that have participated in the respective in-service training and in teachers that have not participated (Figure 7.7).

Figure 7.7: High needs in teaching special needs students by teachers' participation in professional development in this topic

Percentage of lower secondary teachers who reported high needs in teaching special-needs students



1. "Students with special-needs" are those for whom a special learning need has been formally identified because they are mentally, physically, or emotionally disadvantaged.
Countries and economies are ranked in descending order of the percentage of lower secondary principals who participated in a professional development activity in special-needs students
Source: OECD, TALIS 2018 Database, Table CMUL.PD_CONTENT_NEED.

442. On average across the OECD, it is possible to observe that, in the three areas explored, there are no significant differences between the percentages of participating teachers that still report have a high need and the percentage of those that have not participated and have a high need (Figure 7.7). These results seem to suggest that needs of teachers are persistent regardless of whether they have previously participated in training in that area or not. The need for training may emerge not only from previous access to training, but also as a response to concrete school and classroom demands and/or policy requirements.

443. However, there are important cross-country variations that are relevant to acknowledge. For example, in most of the Asian countries participating in TALIS 2018, the percentage of teachers who participated in "teaching students with special needs" in-service training and still have a high need for it is significantly greater than that of those that have not participated and report a high need. That is the case for Japan (57% of participating teachers report a high need against 36% of non-participating teachers with a high need) Shanghai (China) (32% of participating teachers report a high need against 18% of non-participating teachers with a high need) and Viet Nam (40% of participating teachers report a high need against 10% of non-participating teaches with a high need). Inversely in most of the Latin American countries and economies, the proportion of teachers that have not participated in "teaching students with special needs" and have a high need is greater than the percentage that have participated and still have the need. This is the case for Brazil (45% of participating teachers report a high need against 66% of non-participating teaches with a high need), Colombia (46% of participating teachers report a high need against 61% of non-participating teaches with a high need) and Mexico (38% of participating teachers report a high need against 60% of non-participating teaches with high need). A similar pattern is observed for the other two training areas.

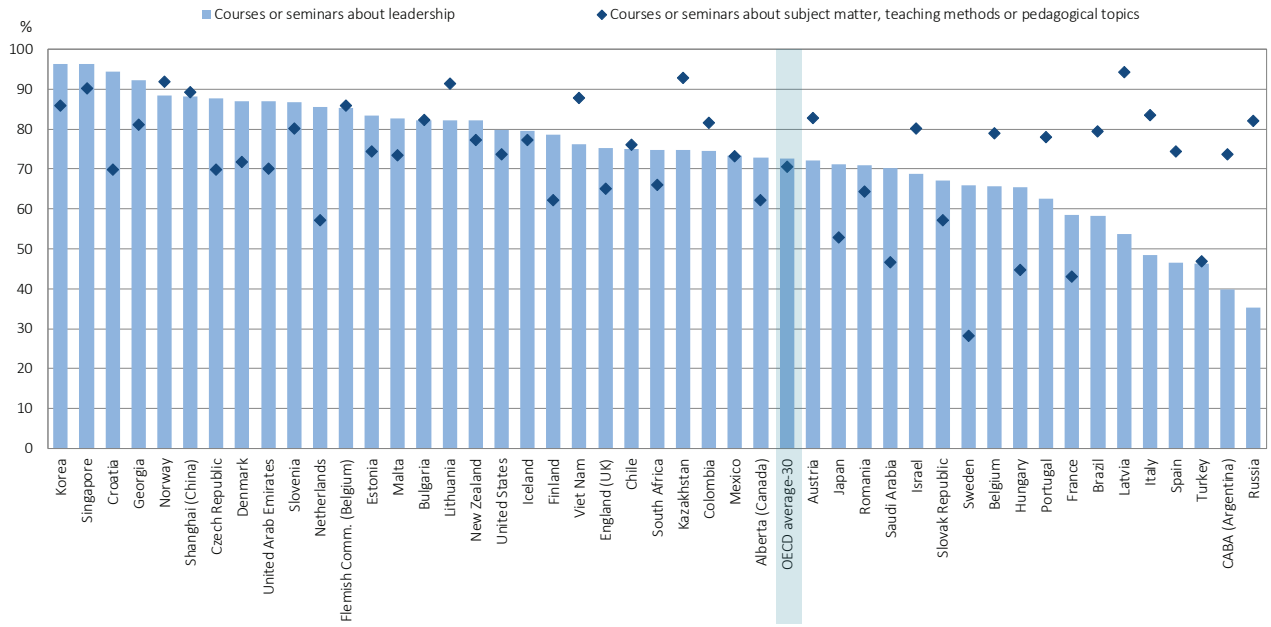
444. A possible explanation in the case of the Asian countries is that the design and implementation of in-service training actually engrains in teachers the desire to get further and additional training. In the case of the Latin American countries and economies, it is interesting to observe that, despite the gap, the percentage of teachers reporting a high need is quite elevated, both in participating and non-participating teachers. This suggests that the issues of teaching special needs students, teaching in multicultural or multilingual classrooms and using ICT skills are quite present across the system. Yet, the fact that the need is so drastically high for Latin American teachers

that have not participated indicates that greater effort should be put into providing access to and the promotion of training in these areas.

445. Regarding principals, on average across the OECD, 73% have participated in "courses/seminars about leadership" (Figure 5.8). The share of principals who have participated in that type of training is particularly high in Korea (96%), Singapore (96%), Croatia (94%) and Georgia (92%), while CABA (Argentina) (40%) and the Russian Federation (35%) have the lowest percentage of principals participating in this type of training. This result could reflect the value that principals allocate to training to help them be better leaders at their schools, as well as the training offered by institutions and educational systems (OECD, 2016[77])

Figure 7.8: Principals' participation in professional development courses or seminars

Percentage of lower secondary principals who participated in the following professional development activities [1]



1. Refers to professional development activities in which teachers participated in the 12 months prior to the survey.
Countries and economies are ranked in descending order of the percentage of lower secondary principals who participated in courses/seminars about leadership in the previous 12 months.
Source: OECD, TALIS 2018 Database, Table BMUL.NO.PD_ACT_P.

446. Similarly, on average across the OECD, 71% of principals participated in "courses/seminars about subject matter, teaching methods or pedagogical topics" (Figure 5.8). As shown in TALIS 2013 results (OECD, 2016[77]), the profile of instructional leaders (principals who spend time improving the instructional quality of their teachers) is expanding across education systems. Kazakhstan, Latvia, Lithuania and Norway are the countries with the highest share of principals accessing this type of training. Inversely, only 28% of Swedish principals report engaging in this type of training. Other TALIS countries and economies showing comparatively low participation rates in this type of training are France, Hungary, Saudi Arabia and Turkey, with a rate of participation between 43 and 47% of principals.

447. However, in five countries, principals seem to participate more in "courses/seminars about leadership" than in "courses/seminars on subject matter, teaching methods or pedagogical topics" (a difference of more than 20 percentage points). That is the case for Croatia, Hungary, the Netherlands, Saudi Arabia and Sweden. Inversely, higher participation in "courses/seminars on subject matter, teaching methods and pedagogical topics" than in "courses/seminars about leadership" is observed for Brazil, CABA (Argentina), Italy, Latvia, the Russian Federation and Spain. The differences in the participation of this training could be a reflection of certain profiles prioritised by school systems or principals themselves. While training in leadership usually seek to reinforce the skills of principals to lead and provide guidance to their schools, training in "subject matter, teaching methods or pedagogical topics" is particular focused in providing the necessary skills for being an instructional leader able to support their teachers in their development needs as well as in their work in the classroom (OECD, 2016[77])

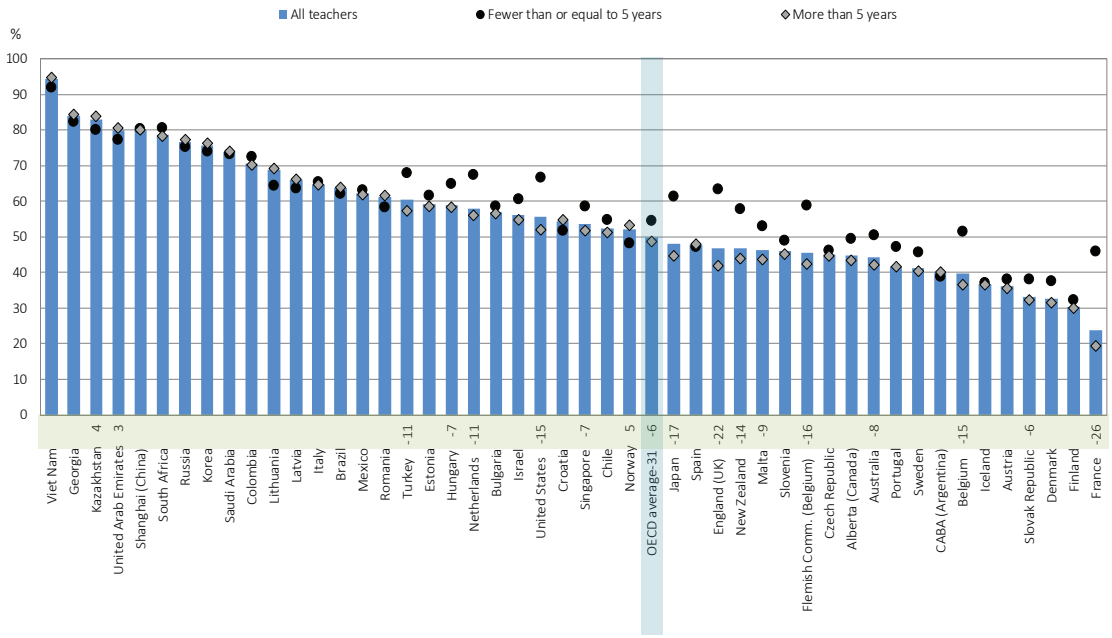
448. Principals were asked about the level of need ("no need"; "low level of need"; "moderate level of need"; or "high level of need") on 11 CPD topics. The results may be reflecting the fact that principals are required to be proficient in multiple roles, ranging from keeping their school financially secure to being pedagogical leaders (Zepeda, Parylo and Bengtson, 2013[22]). The main area highlighted for development concerns the promotion of collaborative work. Across OECD countries and economies, 26% of principals report a high need for instruction on how to develop collaboration among teachers. In Japan, Shanghai (China) and Viet Nam, more than 50% of principals report a high level of need for training to develop collaboration among teachers. Training programmes based on collaborative work have been found to be a key component for instructional leadership (OECD, 2016[77]). Indeed, CPD programmes that train school leaders to build trust in their schools and promote teacher learning have been considered crucial steps to create schools as learning organisations and help build professional learning communities (Kools and Stoll, 2016[78]; Youngs and Bruce King, 2002[79]). Results also reveal that, across OECD countries and economies, 24% of principals report a high need for training in using data to improve the quality of the school) and 23% of principals report a high need for training in financial management.

7.4.2 Content of continuous professional development and need for it, by teacher characteristics

449. TALIS results show interesting differences in the content of CPD attended by teachers, based on their socio-demographic characteristics, particularly their level of experience. The topic for which the gap in participation rates between teachers with less and more experience is largest is CPD training on "student behaviour and classroom management" (an average gap of 6 percentage points) (Figure 7.9). Novice teachers participated more often in this training than their more experienced colleagues in 14 countries, with the largest gaps observed in France (26 percentage points), England (United Kingdom) (22 percentage points), and Japan (17 percentage points). In other words, less experienced teachers are getting training in handling their classroom in greater shares than more experienced teachers. As studies have shown, teachers with less experience are usually allocated to more challenging schools in terms of the student socio-demographic composition (OECD, 2014[14]; OECD, 2018[27]), which can translate in higher participation of novice teachers in classroom management training than of their more experienced peers. Given the time that they have spent in classrooms, more experienced teachers may already have developed these classroom management skills.[68]

Figure 7.9: Participation in professional development on classroom management, by teachers' teaching experience

Percentage of lower secondary teachers for whom student behaviour and classroom management were included in their professional development activities [1]



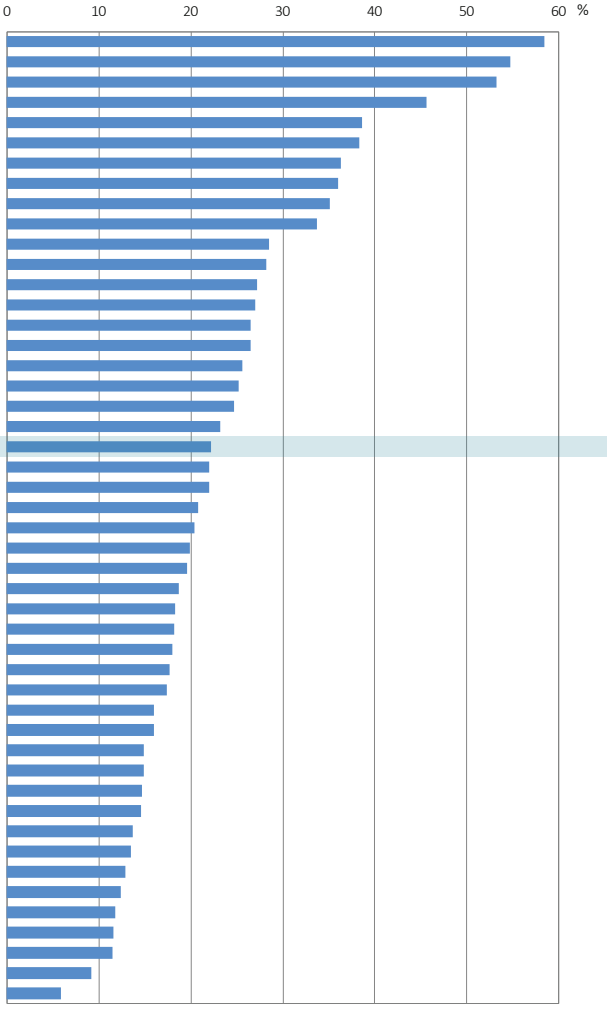
1. Refers to professional development activities teachers participated in in the 12 months prior to the survey.
Note: Statistically significant differences between teachers with more than 5 and fewer than or equal to 5 years of experience is shown next to the country/economy name (see Annex XX).
Countries and economies are ranked in descending order of the percentage of lower secondary teachers for whom student behaviour and classroom management were included in their professional development activities.
Source: OECD, TALIS 2018 Database, Table BMUL.TCEXP.PD_CONTENT.

450. In addition, novice teachers are more likely than more experienced teachers to attend the following CPD activities: "communicating with people from different cultures or countries" (gap of 1.5 percentage points on average across the OECD); "teaching students with special needs" (gap of 1.6 percentage points); and "teaching in a multicultural or multilingual setting" (gap of 3.6 percentage points).

451. Socio-demographic differences in professional development needs are also pronounced for CPD training in "teaching students with special needs". On average across OECD countries and economies, there are higher shares of teachers expressing a high need for training in "teaching students with special needs" among female than male teachers, among teachers under age 30 than those age 50 or above, and among novice teachers than more experienced teachers. There are significant differences in the training needs of female teachers on this topic compared to those of male teachers in 27 countries and economies, with Croatia, France and Japan showing a gap of 14 percentage points. The share of younger teachers reporting a high level of need on this topic is significantly higher that the share of older teachers for 32 countries and economies, with Hungary (22 percentage points), Italy (20 percentage points) and Spain (20 percentage points) showing the largest difference in favour of younger teachers. Finally, 28 countries show a significant difference in need for training on this topic by teacher experience, with the proportion of novice teachers exceeding that of more experienced teachers. The gaps are particularly high in Norway (13 percentage points), Iceland (12 percentage points) and New Zealand (11 percentage points) (Figure 7.10).

Figure 7.10: Need for professional development on teaching students with special needs, by teacher characteristics

Percentage of lower secondary teachers who report a high level of need in teaching students with special needs [1]



	Difference by teacher professional characteristics		
	Male - Female	Age 50 and above - under age 30	Experienced - novice teacher [2]
Brazil			+
Colombia			
Mexico			
Japan	-	-	-
South Africa			
Chile			
Croatia	-	-	-
CABA (Argentina)	-		
Romania	-	-	
France	-	-	
Saudi Arabia		-	
Spain	-	-	-
Bulgaria	-		
Portugal	-		
Estonia	-	-	
Slovak Republic	-	-	
Viet Nam			
Israel		-	-
Shanghai (China)		-	-
Slovenia	-		
OECD average-31	-	-	-
Hungary	-	-	-
Georgia			
Lithuania	-		
Malta		-	-
Singapore	-	-	-
Latvia	-		
Denmark	-		-
Belgium	-	-	-
United Arab Emirates		-	-
Sweden	-	-	-
Norway	-	-	-
Iceland	-		-
Austria	-	-	-
Turkey	-	-	
New Zealand	-	-	-
Italy		-	-
Czech Republic	-	-	-
Russia		-	-
Kazakhstan		-	-
Korea		-	-
Flemish Comm. (Belgium)	-	-	-
Finland	-	-	-
Netherlands		-	-
Australia	-	-	-
Alberta (Canada)		-	-
United States			
England (UK)		-	-
Countries with a positive difference	0	0	1
Countries with no difference	20	15	19
Countries with negative difference	27	31	27

+	Positive difference
-	Negative difference
	Difference is not significant
	Missing values

1. Refers to professional development activities in which teachers participated in the 12 months prior to the survey.
2. Experienced teachers are teachers with more than 5 years of teaching experience.

Countries and economies are ranked in descending order of the percentage of teachers who participated in professional development activities in the previous 12 months.

Source: OECD, TALIS 2018 Database, Table BIN.TCH.PD_NEED.

452. In eight countries and economies, the share of teachers reporting a need for training on "teaching students with special needs" is significantly higher among teachers in schools with a relatively high concentration (over 10%) of students with special needs than among teachers in schools with a lower concentration of special needs students. The differences are particularly high in Austria and Japan with 9 percentage points. However, in Colombia, the share of teachers reporting a need for this training is higher among those in schools with a low concentration of special needs students than among teachers in schools with higher concentrations (11 percentage points). This result could reflect that Colombian teachers teaching in schools with high concentrations of special needs students are being adequately supported, but not enough support is given to those teachers working in schools with low concentrations of special needs students.

7.4.3 Content of continuous professional development, self-efficacy and effective classroom practices

453. In addition to describing the content of CPD attended by teachers, it is relevant to assess whether the related training is associated with implementation of pedagogical practices. As discussed earlier in this chapter, the goal of CPD activities is to provide training opportunities for teachers with the expectation that the training will have an impact on their teaching practices and influence student achievement. Section 7.3.1 already displayed the positive association between CPD training report as impactful by teachers and their levels of job satisfaction and self-efficacy was discussed earlier in this chapter. This section seeks to further explore these relationships by examining the association of teachers' participation in specific CPD content areas with teachers' levels of self-efficacy and practices in these areas. In particular, regression models were conducted to examine the relationships between: 1) participation in CPD training on pedagogical practices and the implementation of effective practices in the classroom; 2) participation in CPD training on classroom management and teachers' level of self-efficacy in classroom management; and 3) participation in CPD training in teaching in multicultural/multilingual settings and teachers' levels of self-efficacy to teach in multicultural environments.

454. The first relationship examined is the association between participation in at least one of the three CPD training activities focusing on pedagogical practices ("pedagogical competencies in teaching my subject", "approaches to individualised learning" and "teaching cross-curricular skills") and the implementation of effective practices in the classroom (based on the teaching practices scale encompassing items of effective practices in clarity of instruction, cognitive activation and classroom management). After controlling for teacher characteristics (such as gender and teaching experience), in almost all TALIS countries and economies, teachers who have participated in at least one of the training activities in pedagogical practices are more likely to have higher levels of implementation of effective practices than teachers who did not participate in this type of training. The relationship is especially strong in Colombia, Kazakhstan, Korea, South Africa and the Russian Federation.

455. The second relationship consists of the association between teachers' participation in CPD training in "student behaviour and classroom management" and the scale of teachers' self-efficacy in classroom management. After controlling by teacher characteristics, on average across the OECD, teachers who have participated in CPD focusing on classroom management are more likely to report higher levels of self-efficacy in classroom management than teachers who have not participated in this type of training. This holds true for teachers in three out five countries and economies that participate in TALIS. The association between training in classroom management and self-efficacy in this area is especially strong in Georgia, Israel, Kazakhstan, Shanghai (China), South Africa and the United Arab Emirates.

456. The last relationship explored is the association between participation in at least one of the two training activities focusing on multiculturalism ("teaching in a multicultural or multilingual setting" and "communicating with people from different cultures or countries") and the scale of teachers' self-efficacy in multicultural environments. After controlling for teacher characteristics, in 42 countries, teachers who have participated in at least one of the training activities on multicultural teaching report higher levels of self-efficacy in this area than teachers who did not participate in either of these two training activities. The relationship is particularly strong in Korea and Shanghai (China), while the only countries/economies where this association is not significant are Alberta (Canada), Chile, Iceland, the Netherlands, Saudi Arabia and the the Slovak Republic.

457. These findings suggest that, for teachers in most countries and economies, participation in professional development is associated with implementation of effective practices and building confidence to do their work. Although caution must be exercised in drawing a causal link, these results mirror previous findings on the relation between training, self-efficacy and teaching practices (Barrera-Pedemonte, 2016[37]; Fischer et al., 2018[67]). The relationship between training and self-efficacy should not be neglected, since affecting the beliefs of teachers regarding their practices is a first step towards improving their classroom instruction (Guskey and Yoon, 2009[63]).

7.5 Supporting continuous professional development for teachers and school leaders

458. A big part of the success of CPD activities relies on design and implementation (Darling-Hammond, Hyler and Gardner, 2017[15]). Content should be linked with the curriculum, take teachers' experience into account and be aligned with their needs (Opfer and Pedder, 2011[51]). But no professional development programme can be successful if teachers and school leaders do not participate in it. Thus, policy makers must take into consideration the possible barriers to teachers' participation in these training opportunities and identify support mechanisms to facilitate their participation. Indeed, participation in CPD programmes should not be viewed as a responsibility solely borne by teachers and principals. High-achieving education systems provide guidance and support to teachers and principals to help them select and participate in the most pertinent training for them (Darling-Hammond et al., 2017[85]; Jensen et al., 2016[65]). This section describes the main barriers to accessing training, as report by teachers and principals. It then examines the level of support received by teachers and how that relates to actual participation in training programmes.

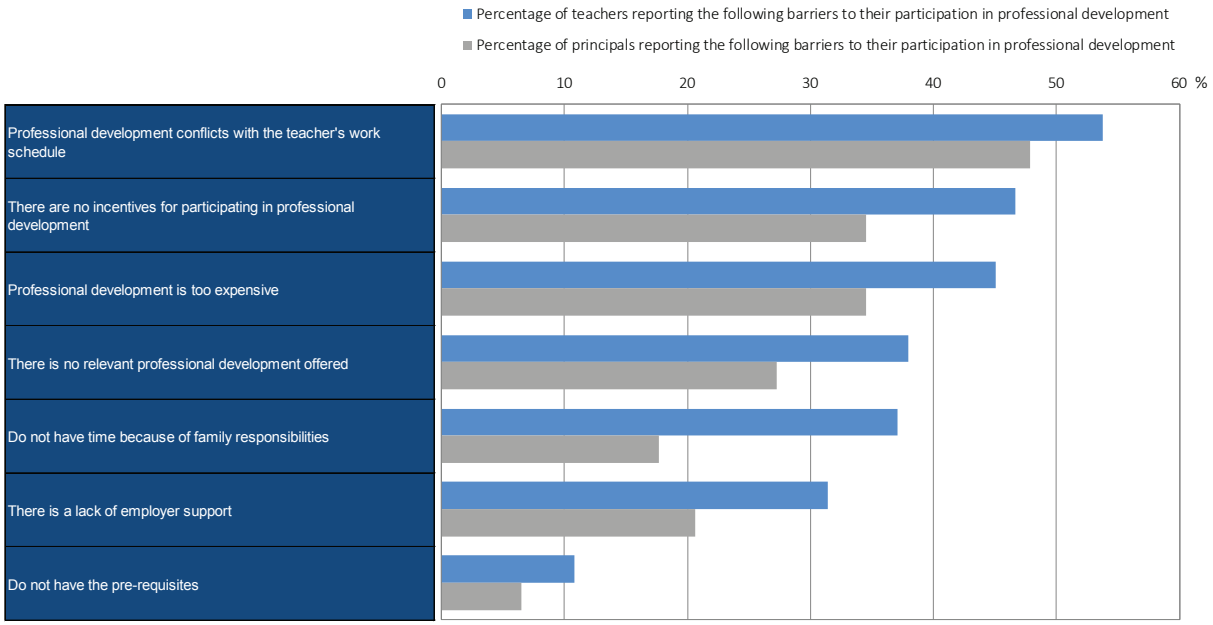
7.5.1 Barriers to participation in continuous professional development

459. TALIS presented teachers and principals with a list of seven possible impediments to participation in CPD training and asked to what extent they agreed that these issues represented a barrier to participation at the time of the survey ("strongly disagree"; "disagree"; "agree"; or "strongly agree"). On average across the OECD, most teachers (54%) and principals (48%) "agree" or "strongly agree" that the issue of "conflicts with the teacher's/principal's work schedule" was a barrier (Figure 5.14). The percentage of teachers reporting a "conflict with the work schedule" varies considerably across TALIS countries and economies, from particularly high values in Korea (88%) and Japan (87%) to a very low percentage in Georgia (20%). For principals, Japan is again at the top of the scale, with 82% of principals reporting schedule conflicts as a barrier, while in Croatia only 7% of principals report this barrier.

460. These results should not come as a surprise, since time allocated for training has been identified as one the major challenges for implementation of effective CPD (Scribner, 1999[33]; Sparks, 2002[21]). Systems should strive to allocate some hours for teachers and principals to participate in training within their regular work schedules, whether through formal channels (such as participation in courses or seminars) or informal channels (such as collaborating with colleagues) (Darling-Hammond, Hyler and Gardner, 2017[15]; Jensen et al., 2016[65]).

Figure 7.11: Types of barriers to teachers' and principals' participation in professional development*

Resutls based on responses of lower secondary teachers and principals (OECD average) [1] [2]



1. OECD average covers 31 countries for teachers and 30 countries for principals.
2. Includes teachers and principals who agree or strongly agree that the following elements present barriers to their participation in professional development.

Values are ranked in descending order of the percentage of teachers reporting the following barriers to their participation in professional development.

Source: OECD, TALIS 2018 Database, Table BMUL.NO.PD_BARRIER and Table BMUL.NO.PD_BARRIER_P.

461. The second-highest reported barrier for both teachers (47%) and principals (35%) is that "there are no incentives for participating in professional development" (Figure 7.11). The cross-country variation regarding reporting of "lack of incentives" as a barrier to participation in CPD activities is high in Portugal and Saudi Arabia, with 85% of teachers reporting this issue, and low in Estonia and Kazakhstan, with only 15% of teachers doing so. In the case of principals, 84% of principals in Saudi Arabia report "lack of incentives" as a barrier, while only 4% of principals do so in Singapore.

462. The issue of incentives for participating in CPD is linked to the question of what motivates teachers and principals to engage in further training (Richter et al., 2011[86]). An important aspect of participation in CPD training is career advancement since, more often than not, participation in CPD translates into an accumulation of credits that count for career promotion (OECD, 2013[39]). However, CPD training should not be understood solely as a mechanism for career advancement; it should also be considered a means for learning and improvement. Many teachers and principals are attracted to CPD because it offers the opportunity to tackle situations or issues that they face in their daily lives (Scribner, 1999[33]). One of the great incentives of CPD programmes is developing an offer in which the content is aligned with the needs of teachers and principals (Opfer and Pedder, 2011[51]).

463. The increase in reports signalling "lack of incentives" and "conflicts with work schedule" as barriers across years could be partially explained by the budget cuts incurred by many countries (OECD, 2015[84]). A lack of financial resources could translate into a lack of human resources, augmenting the workload of current staff and presenting a barrier to professional development. Also, the lack of funds limits the possibility of establishing concrete rewards for teachers and principals to engage in professional development activities.

Box 7.5: Barriers to teachers' participation in professional development activities

Even though participation in CPD activities is generally high, about half of teachers at the lower secondary level (on average in the OECD) agree or strongly agree that the training programme "conflicts with the teacher's work schedule" (54%), "there are no incentives for participating in professional development" (47%) or that training programmes are "too expensive" (45%) . By contrast, primary teachers tend to have fewer barriers to participation in CPD activities than their lower secondary peers. In particular, depending on the category, in 8 or 10 out of 13 countries and economies with available data for ISCED 1 and 2, primary teachers are less likely to agree or strongly agree that "there are no incentives for participating in professional development" or that "professional development conflicts with the teacher's work schedule". The largest differences for work schedule conflicts are found in CABA (Argentina) (-11 percentage points lower for primary teachers) and England (-17 percentage points lower for primary teachers). The opposite pattern is observed in France where the percentage of teachers reporting work schedule conflicts as a barrier to training decreases from 61% at the primary level to 46% at the lower secondary level, a difference of 15 percentage points. In fact, work schedule conflicts, lack of employers' support and the feeling that there are no incentives for participating in professional development are highly correlated across countries and economies. In this sense, it is not surprising that in France, concurrent to the decrease in the difference between primary and lower secondary teachers in work schedule conflicts as a barrier, there have also been decreases in the difference between the two levels of education on "lack of employers' support" (- 19 percentage points) and lack of "incentives for participating in professional development" (- 5 percentage points).

At the upper secondary level, depending on the barrier, the changes go in different directions, and no unique tendency arises. However, a remarkable increase in the percentage of teachers reporting "conflicts with the teacher's working schedule" as a barrier to training is found in 5 out of 11 countries and economies with available data for ISCED 2 and 3, with the largest difference in Alberta (Canada) and Denmark (both 9 percentage points higher for upper secondary teachers) .

7.5.2 Available support for teachers' participation in continuous professional development.

464. Once the barriers to CPD have been identified, it is crucial to provide support to teachers to overcome them. These support efforts encompass every part of education systems, from central administration to management staff in local schools (Jensen et al., 2016[65]). Results from TALIS 2013 have shown the importance of monetary support for participation in professional development (OECD, 2014[14]), but relevant support can also be provided through allocation of time for training or guidance on further training (Darling-Hammond, Hyler and Gardner, 2017[15])

465. TALIS countries and economies had the option of choosing a question on mechanisms to support participation in CPD. Of the participating countries and economies, 44 chose to include it in the questionnaire. Teachers were asked to select the support mechanisms they receive for their CPD training from a list of eight options. On average, among the group of TALIS participants that included this question, the options more frequently highlighted by teachers were: "release from teaching duties for activities during regular working hours" (48% of teachers); "material needed for activities" (38%); and "reimbursement or payment of costs (34%). The least-mentioned option was "increase of salary" (10% of teachers) .

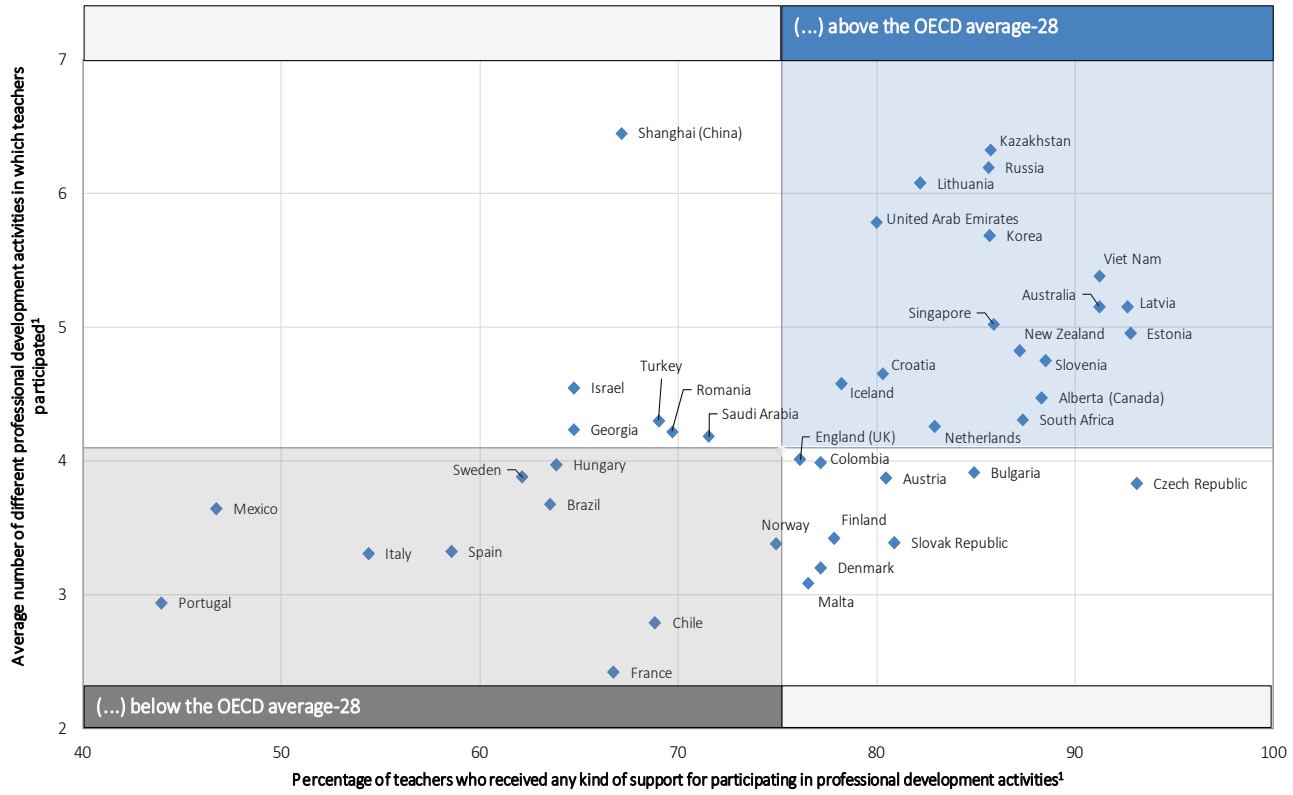
466. A summary indicator was developed to indicate if the teacher listed at least one of the eight possible options for support. Overall, across these 44 TALIS participants, more than 75% of teachers report receiving at least one type of support to participate in professional development activities during the months preceding the survey. Nine out of ten teachers report receiving some type of support in the Czech Republic (93%), Estonia (93%), Latvia (93%), Viet Nam (91%) and Australia (91%). Countries with a comparatively lower share of teachers reporting any form of support are Spain (59%), Italy (54%), Mexico (47%) and Portugal (44%).

467. Furthermore, for 12 countries, teachers from privately managed schools report more frequently receiving some type of support to participate in CPD training than teachers in publically managed schools. The gap is particularly pronounced in Mexico (+26 percentage points in privately managed schools), Turkey (+17 percentage points), Spain (+12 percentage points), Hungary (+12 percentage points) and Norway (+11 percentage points). For 11 countries and economies, the share of teachers in rural schools receiving at least one type of support is significantly higher than that of teachers in city schools. The gap is particularly pronounced in Brazil (+12 percentage points in favour of rural school teachers), Spain (+11 percentage points),Croatia (+11 percentage points) and New Zealand (+10 percentage points).

468. This section started with the premise that support is important for teachers' participation in CPD. Figure 5.16 explores this association by looking at the country-level association between participation in a number of different CPD activities and the support received for this participation. Results show a positive correlation between support received by teachers and overall participation in CPD activities (the linear correlation coefficient r is r=.59 among OECD countries and r=.50 among the 44 TALIS countries).Percentage levels above the OECD average of both participation and support are observed for 17 countries. Inversely, percentage levels below the OECD average for both support and participation is observed for 10 countries

Figure 7.12: Participation in professional development and level of support received

Results based on responses of lower secondary teachers



1. Refers to professional development activities in which teachers participated in the 12 months prior to the survey.
Notes: Only countries and economies with available data for average number of different professional development activities in which teachers participated and percentage of teachers who received any kind of support for participating in professional development activities are shown.
The OECD average-28 includes all TALIS 2018 OECD countries, with the exception of Belgium, Japan and the United States.
Source: OECD, TALIS 2018 Database, Table BMUL.TCEXP.PD_TYPE and Table BIN.SCH.PD_SUPPORT.

469. Countries in the upper-left quadrant exhibit high levels of participation despite having comparatively low levels of support, as is the case in Israel, Romania, Saudi Arabia, Shanghai (China), Sweden and Turkey. Participation in CPD within those systems might be mandatory, or they could have strong incentives motivating teachers to engage in CPD. Given the proportion of teachers stating that they are receiving support for their training, countries and economies in the lower-right quadrant of the figure (such as Colombia, Finland, Denmark) should have higher levels of participation in CPD activities. It is possible that factors other than support, such as motivation for further training or remaining barriers, may be impeding higher levels of participation.

470. The eight types of support can be grouped into two distinct groups as monetary support and non-monetary support[69]. Further analyses at the teacher level allow for a more nuanced understanding of how these different types of support relate to participation in different types of professional development. TALIS results showed that, in all 44 countries and economies with available data, teachers who report having received at least one type of non-monetary support tend to participate in more professional development activities (REG.OLS.C.PDEV_PDSUP_v3). Likewise, for 41 countries and economies, teachers who report receiving at least one type of monetary support also tend to participate in more professional development activities (REG.OLS.C.PDEV_PDSUP_v3). The evidence shows the importance of both types of support in promoting participation of teachers in CPD activities. Indeed, the results suggest that teachers benefit from monetary and non-monetary support. As such, systems should not only be mindful of monetary incentives to increase participation, such as increased salary for participation, but also of other non-monetary factors, such as providing flexible schedules for participation or providing the materials necessary for the activities.

Notes

1. Professional development, understood in a broad sense, encompasses all training opportunities, from initial education to in-service training. For analytical purposes, TALIS has divided the analysis of these training opportunities across different chapters. Chapter 4 focuses on pre-service initial training activities and training opportunities (induction and mentoring) for those who are new to the profession or the school. Chapter 5 focuses on recent (defined as having taken place in the 12 months prior to the survey) in-service training activities involving teachers and principals.

2. For a full description of the United Nations Strategic Development Goals and their link with the TALIS study, please see Box 1.X in Chapter 1.

3. The OECD average corresponds to the arithmetic mean of the estimates of the OECD countries and economies that participate in TALIS, with adjudicated data.

4. Participation in a network of teachers allows not only for dissemination of knowledge and support of concrete areas of teachers' work, but also for expanded possibilities of pedagogical innovation – see, for example, the Mathematics Teachers' Network (https://completemaths.com/events/mtn) and the AMICO Robot Network (OECD, 2018, p. 5[107]).

5. The high participation of principals in professional development could be somewhat explained by the lack of initial training they receive in the specific tasks of their role. Only 53% of school leaders have completed a programme or course in school administration or principal training before taking up their position as principal, with the same share having completed an instructional leadership training programme or course. For more information, see Chapter 4.

6. These results are also reflecting findings from Chapter 2 displaying that the proportion of teachers reporting high levels of self-efficacy drops to 59% when it comes to adapting their teaching to the cultural diversity of students, i.e. much lower than for aspects related to promoting positive relationships and interactions between students from different backgrounds.

7. On average across the OECD, 31% of teachers work in schools with at least 10% of students with special needs, 30% in schools with at least 1% of refugee students, 21% in schools with at least 10% of students who are non-native speakers, 20% in schools with at least 30% of socio-economically disadvantaged students and 17% in schools with at least 10% of students with a migrant background.

8. It is also interesting to note that more than half of the teachers report that "student behaviour and classroom management", "teaching cross-curricular skills" and "use of ICT for teaching" were included in teacher formal initial education and training. It may signal that there is constant demand to further develop these areas, regardless of the previous training received by teachers.

9. The results mirror the findings of Chapter 4, where it was shown that 78% of novice teachers feel that they can control disruptive behaviour in their classroom, while 87% of experienced teachers report that they can do so. In accordance with previous research, this supports the concept that experience helps teachers to develop skills and routines to manage their classroom better and to try out various strategies of teaching and assessing students.

10. Monetary support refers to teachers reporting receiving at least one of the following: “reimbursement or payment of costs”, “monetary supplements for activities outside of the working hours”, “increased salary”. Non-monetary support refers to teachers reporting receiving at least one of the following: “release from teaching duties for activities during regular working hours”, “non-monetary support for activities outside working hours”, “material needed for the activities”, “non-monetary rewards”, “non-monetary professional benefits”.

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Chapter 8:
Conclusion

In this Report the conclusion is drawn that research studies such TALIS are a step in the right direction towards better understanding the day-to-day experiences of teachers and principals. It presents a shift away from the focus on performance data. It enables interested stakeholders to learn about how the work of the teacher and how teacher identity and practice can affect learning outcomes. Significantly, this learning comes through the voice of the teacher and principals.

Conclusion

Based on an important need of better understanding the teaching profession, the Organisation for Economic Cooperation and Development (OECD) must be credited with the foresight of generating a measurable design for countries to participate in an international large scale survey of teachers and principals.

The Report highlights several positives on which further analysis can be built, notably:

a) Teachers in South Africa appear satisfied with the in-service training they receive, and more than 80% report that it has a positive impact on their teaching practice,

b) During their initial education and training, a high percentage of teachers in South Africa were instructed and felt prepared on subject content, pedagogy and classroom practice,

c) More than half of novice teachers have a mentor assigned to them,

d) A high percentage of teachers report that they and their colleagues support each other in implementing new ideas, and

e) More than 90% of principals report that their teachers believe that children and young people should learn that people of different cultures have a lot in common.

Note should also be taken on areas to improve efficiency and quality in the system, including:

a) Having more principals complete an instructional leadership training programme or course, before taking up their position as principal.

b) Better supporting the high percentage of teachers that work in schools where almost a third of their learners come from socio-economically disadvantaged backgrounds, with considerations of multicultural, multilingual and special needs learners.

c) Responding to the high percentage of principals indicating a shortage of library resource materials and resources enabling digital technology for instruction.

An important goal for the sector is to improve the use of ICT in our schools as this will teacher efficiencies on planning, marking, analysis of results, and providing feedback to learners and parents. An important observation of the study on improving instructional quality is that a high percentage of teachers indicate that the Department should prioritise expenditure on reducing workloads and class sizes for them to be more efficient.

TALIS indicates that many of South African teachers are motivated by an intrinsic need to influence learners' development and contribute to society, have high self-efficacy levels and see themselves a frontline actors in improving learning outcomes.

An appropriate response by Government to the findings of TALIS must be policy actions that encourage teacher growth, inspire and enable innovation, identify and share best practice to reduce perceived gaps between professional vison and pedagogical practice

An important take-way point of TALIS is that "policy decisions based on empirical research evidence are among the greatest attributes of highly successful education systems". The findings and policy pointers of TALIS as articulated in this Report must be shared widely in the sector.

Critical players in the sector must energise the findings into focused, credible and concrete plans on the professionalism of teaching that can lift efficiency and quality to levels we all can be proud off and enables learners to be suitable beneficiaries of a 21st century teacher.

Notes

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