

3 Improving teaching

Introduction

In terms of education system-level factors, research suggests that teachers are one of the most important in impacting student outcomes (Hanushek, 2011^[1]; Hattie, 2009^[2]; Rivkin, Hanushek and Kain, 2005^[3]). Many countries around the world have designed policies to prepare teachers and help them develop so they can become influential agents in improving student learning.

Several characteristics distinguish the teaching profession in the Eastern European and Central Asian (EECA) region. In many countries, teachers are comparatively older. Over one in four teachers in Georgia is over 60 (Li et al., 2019^[4]), and Bulgaria and Georgia have two of the four oldest teaching populations out of all countries that participated in the most recent OECD Teaching and Learning International Survey (TALIS) (OECD, 2019^[5]). Relative to international benchmarks, teachers in the EECA region also tend to have lower compensation compared to jobs that require similar educational qualifications (Kitchen et al., 2017^[6]; OECD, 2017^[7]) and be less satisfied with their salaries (OECD, 2019^[5]). These factors shape the types of practices that teachers use, how they perceive their status in society and their motivation to improve, as well as the types of policies that EECA countries develop to support teachers.

This chapter uses the OECD Programme for International Student Assessment (PISA) data and other information to shed light on teachers, teaching and teacher policy in the EECA region. It begins by examining the types of practices that teachers use, and whether they are consistent with the methods that research shows foster inclusion and are effective in enabling student learning. It also examines how quality assurance mechanisms are functioning in the region and whether they might be reinforcing or complicating the implementation of desired teaching behaviours. Finally, this chapter looks at how countries in the region help their teachers improve, and what policy measures governments can consider to better support teachers in their national contexts.

Teaching practices

Broadly speaking, teachers in the EECA region continue to rely heavily on traditional pedagogy, such as lecturing to students and asking them to memorise information. Research suggests that these techniques might not be as well suited to developing some important skills and competences. In particular, international studies indicate that active, student-centred approaches might better help students develop so-called 21st century competences, such as creativity, critical thinking, collaborative problem solving and communication (Peterson et al., 2018^[8]; Jacobs and Toh-Heng, 2013^[9]). Moreover, traditional teaching practices can stand in the way of the personalised types of instruction that allow students to learn at their own pace and in different ways, which is especially important to making education more inclusive (OECD, 2012^[10]). In response to these demands, many EECA countries are taking steps to modernise pedagogy and encourage teachers to adapt instruction to individual student needs.

International experience shows that changing teachers' classroom practice can be very challenging. One reason education systems often struggle to implement modern practices is because providers of initial

teacher education (ITE) might not equip teacher candidates to use new approaches, often because programmes offer limited preparation in pedagogy and hands-on classroom practice (OECD, 2019^[11]). Some EECA countries lack instruments, such as consistent programme accreditation and robust certification requirements. These instruments can help direct ITE providers to design programmes that align with national expectations for teaching and learning and guarantee minimum quality standards (OECD, 2020^[12]).

Another reason is that more experienced teachers in the region might be hesitant to adopt newer approaches or need more support to adopt them. Many in-service teachers in the EECA region are older and were trained using very different pedagogical methods than what are expected today. These teachers need considerable support and incentives to adopt the desired, new approaches. Other sections in this chapter indicate the extent of these challenges, as well as some of the ways in which they might be overcome.

Data from PISA

Teaching methods in EECA countries (as perceived by students) are rather traditional and are associated with lower student achievement

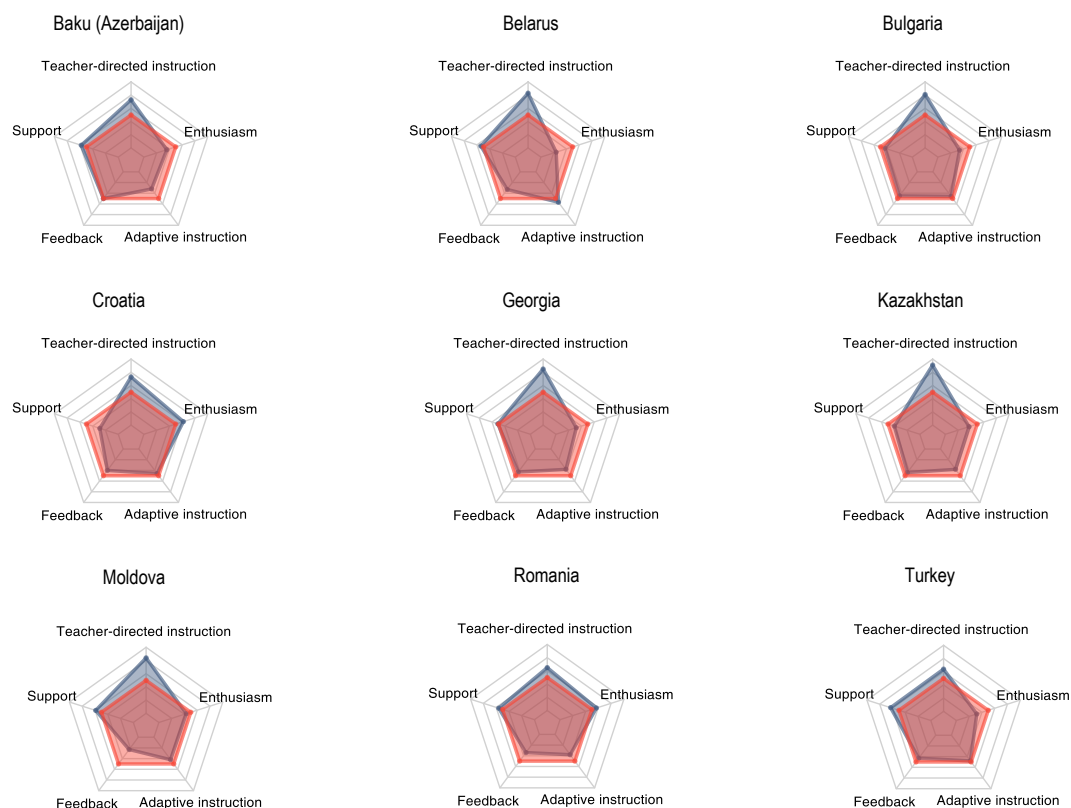
The PISA 2018 student questionnaire asked students about how their teachers teach. Responses to these questions were used to construct five indices about teaching practices in students' language-of-instruction courses (Table 3.1). All indices are calculated to have an average of zero and standard deviation of one across OECD countries. Positive values in the indices mean that students perceived their reading teachers to be more enthusiastic, provide greater support or use certain teaching practices more frequently than what was reported by the average student across OECD countries (OECD, 2019^[13]). Figure 3.1 shows the adjusted results¹ for these indices, which represent the extent to which each practice is more or less common relative to the others (and to the OECD average).

Table 3.1. Indices of teaching practice

Index name	Student prompt	Example questions
Teacher enthusiasm	Do you agree ("strongly agree", "agree", "disagree", "strongly disagree") with the following statements about the two language-of-instruction lessons you attended prior to sitting the PISA test?	It was clear to me that the teacher liked teaching us. The enthusiasm of the teacher inspired me.
Teacher support	How often ("never or hardly never", "some lessons", "most lessons", "every lesson") do the following happen in your language-of-instruction lessons?	The teacher shows an interest in every student's learning. The teacher gives extra help when students need it.
Teacher feedback		The teacher gives me feedback on my strengths in this subject. The teacher tells me in which areas I can improve.
Teacher-directed instruction		The teacher asks questions to check whether we have understood what was taught. The teacher tells us what we have to learn.
Adaptive instruction		The teacher adapts the lesson to [my] class's needs and knowledge. The teacher changes the structure of the lesson on a topic that most students find difficult to understand.

Source: (OECD, 2019^[14]), *PISA 2018 Database*, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

Figure 3.1. Teacher practices



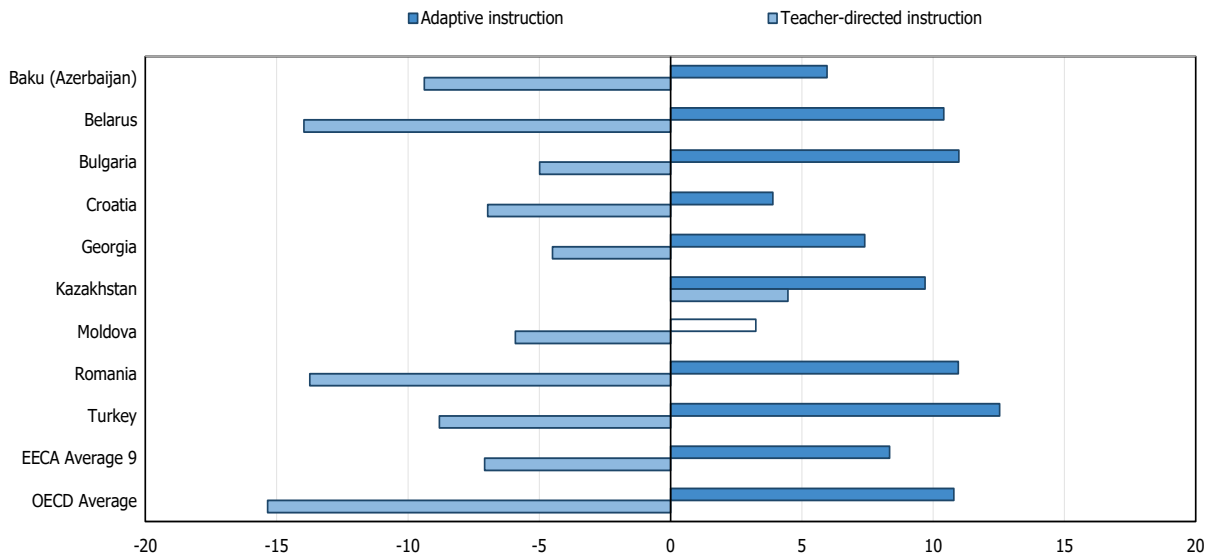
Note: Data were missing for Ukraine.

Source: (OECD, 2019[14]), PISA 2018 database, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

In all nine EECA countries with data, teacher-directed instruction is more common compared to the OECD average, and there is generally less adaptive instruction and teacher enthusiasm (Box 3.1). In all EECA countries with data, students who reported experiencing more adaptive practices in language-of-instruction lessons experienced greater increases in reading, even after accounting for gender and socio-economic status (Figure 3.2). In all countries except Kazakhstan, students had lower outcomes in reading with greater exposure to teacher-directed instruction.

Figure 3.2. Teacher practices and reading performance

Change in reading performance associated with greater student exposure to:



Notes: Results based on linear regression analysis after accounting for gender and students' and schools' socio-economic status. Values that are statistically significant are shaded.

The data for this figure were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), *PISA 2018 database*, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

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Box 3.1. Teacher enthusiasm

In EECA countries, teacher enthusiasm is perceived as lower overall compared to the OECD average, except in Croatia and Romania. Students who scored higher in reading were more likely to perceive their teacher as enthusiastic in all EECA countries except in Kazakhstan, after accounting for the socio-economic status of students and schools.

However, researchers note that the relationship between teacher enthusiasm and student performance is probably indirect and moderated by other factors (OECD, 2020^[15]). For example, in all PISA-participating countries and economies, disciplinary climate and student motivation were positively associated with teacher enthusiasm, and the directionality of these relationships is unclear. Students may be more motivated and behave better with a more enthusiastic teacher, or a teacher might be more enthusiastic with more motivated and better-disciplined students (OECD, 2019^[13]). After accounting for disciplinary climate and students' motivation to master tasks, the association between student performance and teacher enthusiasm disappears in all EECA countries except Baku (Azerbaijan) and Belarus (ibid).

Some teacher behaviours that are more common in the EECA region may hinder student learning

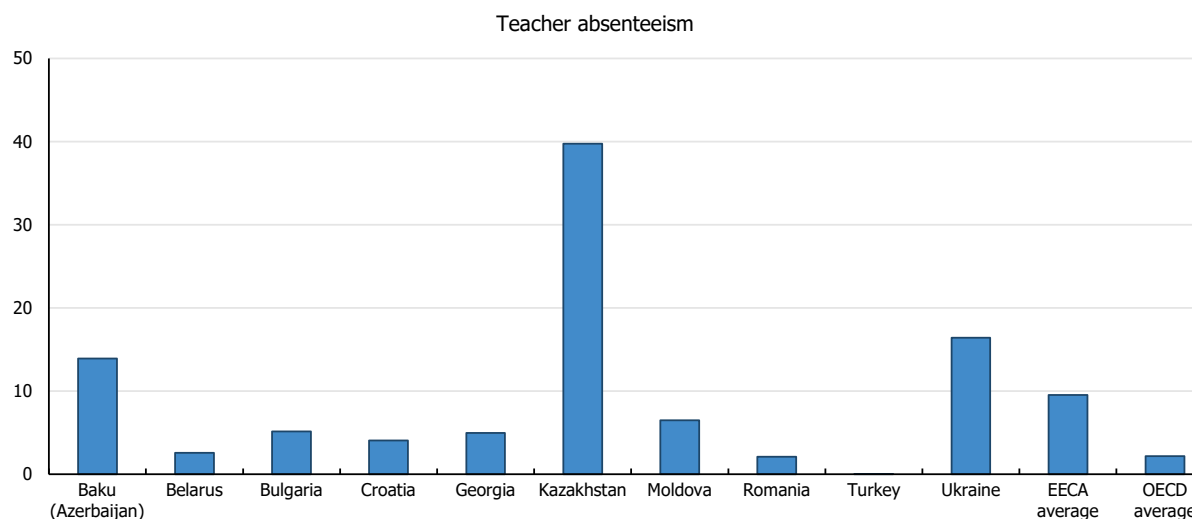
PISA 2018 asked school principals to report on the extent to which they think that student learning in their schools is hindered by:

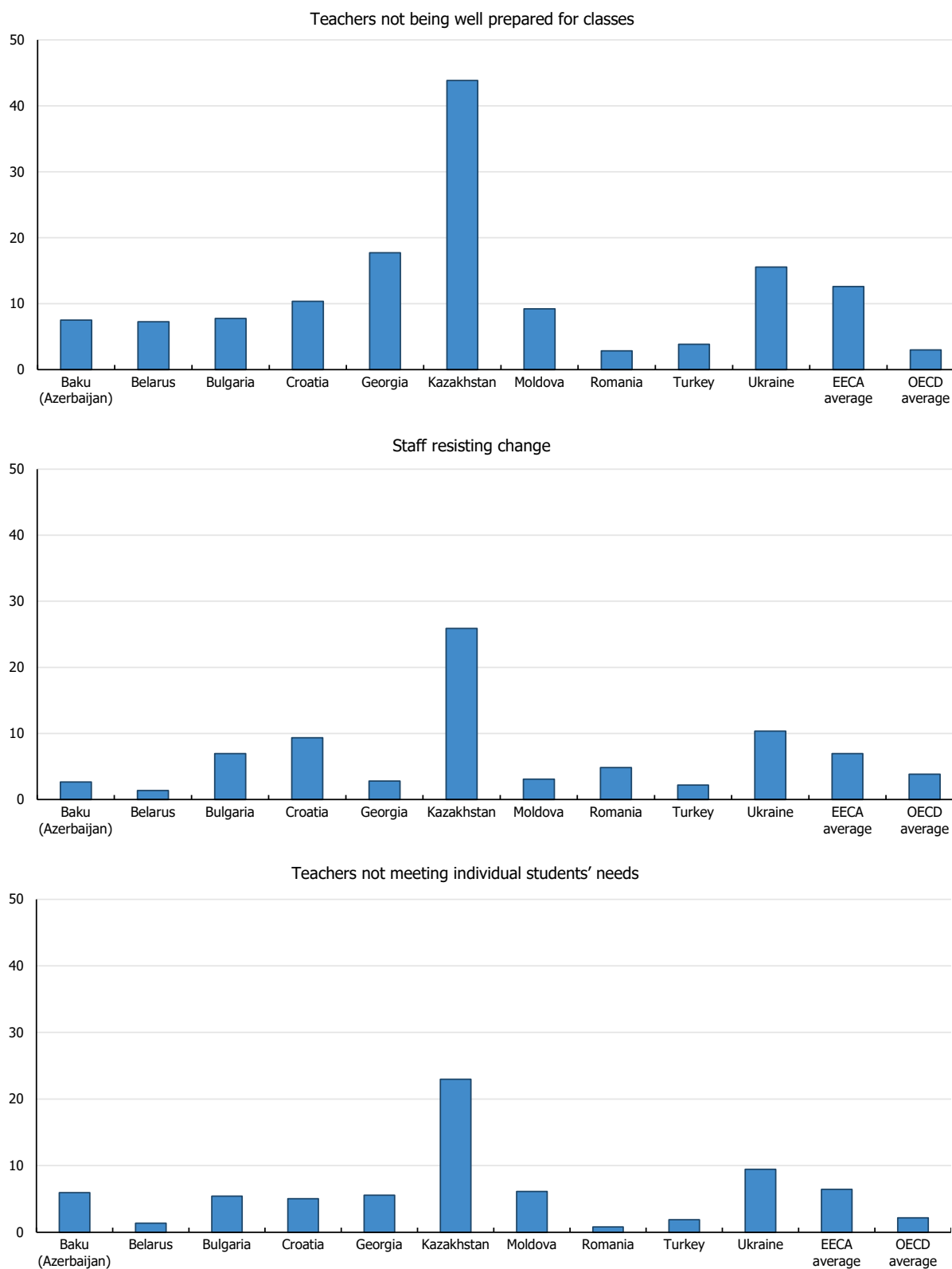
- School staff resisting change
- Teacher absenteeism
- Teachers not meeting individual students' needs
- Teachers not being well-prepared for classes

Principals in most EECA countries are more likely to report that these teacher behaviours, especially teacher absenteeism and lack of preparation, hinder student learning (Figure 3.3). Kazakhstan reported the highest rates of such concern across all PISA-participating countries – 40% of students attend schools where principals think that learning is hindered a lot by teacher absenteeism (the OECD average is 3%) and 44% attend schools where the principals report that teachers not being well-prepared for classes hinders learning a lot (the OECD average is 2%). These results can be partially explained by the difficulty in allocating teacher capacity efficiently in the vast Kazakhstani school network (even if the total number of teachers is adequate), and the lack of quality assurance in a highly fragmented ITE system (OECD, 2020^[12]).

Figure 3.3. Teacher behaviour that may hinder student learning

Percentage of students whose principal reported that the following behaviours hindered student learning a lot in their schools





Note: The data for this figure were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), *PISA 2018 Database*, Table III.B1.7.1, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020)

Policy implications

Teacher standards can help set out desired teaching practices

Standards are an effective (and among OECD countries, common) way of aligning teacher policies and practices as they represent a common reference point that anchors the overall understanding of teacher responsibilities and expected performance (OECD, 2013^[16]). Teacher standards describe what teachers should know and be able to do, including the description of a desirable level of performance (Ingvarson, 2002^[17]). These standards can help inform initial teacher education, certification, appraisal and professional development by aligning institutions and practices around a shared vision of teaching.

Some EECA countries have created national standards to help guide the profession (Table 3.2). In general, these standards positively feature key pedagogical knowledge and skills and highlight important practices, such as individualised and adaptive instruction. Many also set out different levels of the teaching profession (e.g. beginner and advanced), which is important in this region because in many countries teachers also assume school leadership roles (see Chapter 2).

Nevertheless, there are issues regarding the extensiveness and relevance of teacher standards across the region. Azerbaijan and Croatia do not yet have comprehensive, modern teacher standards. Belarus relies upon occupational characteristics, which act more like job descriptions rather than providing explicit expectations of the knowledge and competences teachers should demonstrate (Ministry of Education of the Republic of Belarus, 2011^[18]). Similarly, Romania introduced a Teaching Staff Statute that sets out the formal qualifications to be a teacher, as well as their rights and obligations, but not the competences that teachers are expected to master in order to be effective, classroom instructors (Kitchen et al., 2017^[6]). Developing modern, multidimensional teacher standards in these countries can help promote a common understanding of what good teaching is, and what practices teachers are expected to use in the classroom. Other sections in this chapter discuss further what policies countries can consider to help implement and embed teacher standards.

Table 3.2. Teacher standards in EECA countries

	Year when teacher standards were introduced
Baku (Azerbaijan)	N/A
Belarus	N/A (Occupational characteristics in 2013, standards expected to be developed in 2021)
Bulgaria	2019
Croatia	N/A
Georgia	2015
Kazakhstan	2017
Moldova	2018
Romania	N/A (Teaching Staff Statute in 2012)
Turkey	2017
Ukraine	2020

Sources: (European Commission/EACEA/Eurydice, 2020^[19]), *Compulsory Education in Europe – 2020/21. Eurydice Facts and Figures*, <http://dx.doi.org/10.2797/20126>; (Kitchen et al., 2017^[6]), *OECD Reviews of Evaluation and Assessment: Romania*, <https://dx.doi.org/10.1787/9789264274051-en>; (Kitchen et al., 2019^[20]), *OECD Reviews of Evaluation and Assessment: Student Assessment in Turkey*, <https://dx.doi.org/10.1787/5edc0abe-en>; Law on Education in Primary and Secondary School in Croatia (2020), <https://www.zakon.hr/z/317/Zakon-o-odgoju-i-obrazovanju-u-osnovnoj-i-srednjoj-%C5%A1koli> (accessed 23 April 2021); (Li et al., 2019^[4]), *OECD Reviews of Evaluation and Assessment: Georgia*, <https://dx.doi.org/10.1787/94dc370e-en>; (OECD, 2020^[21]), *Raising the quality of initial teacher education and support for early career teachers in Kazakhstan*, <https://doi.org/10.1787/68c45a81-en>.

Professional codes of conduct can complement teacher standards

A growing number of countries have developed a professional code of conduct for teachers to accompany their teacher standards. While teacher standards set out expectations for teachers' professional competences, codes of conduct help communicate what these expectations mean in day-to-day practice, and also set out expectations for teachers' integrity and disposition. For example, in Scotland (United Kingdom), the teacher code of conduct asks teachers to act role models to students and not engage in dishonest activities (GTC Scotland, 2012^[22]). Guidelines like these can help develop awareness among teachers about what the core values of the profession are and how they are expected to conduct themselves in unexpected situations.

Establishing codes of conduct might be especially relevant in EECA countries because there are concerns about the integrity of teacher activities, particularly regarding absenteeism or offering private tutoring to students, and how those activities can affect their classroom behaviour (OECD, 2017^[7]). Moreover, in some EECA countries responsibility for hiring and dismissing teachers rests almost solely with the school itself. In Bulgaria, Croatia and Georgia, over 94% of principals in lower secondary schools are responsible for appointing or hiring teachers, compared to 70% across the OECD (OECD, 2019^[5]). This autonomy around staffing can create issues around fairness and transparency, especially in the types of small, rural communities that are common in many parts of the EECA region (and also increase the need to develop the capacity of school leaders, see Chapter 2) (Li et al., 2019^[4]). Having a code of conduct could help schools and teachers in these situations make difficult decisions in a more impartial manner, and be held more accountable for the decisions they make.

Teacher qualifications

Countries can help make sure that teachers have the competences needed to teach in the classroom through several methods. A common approach is to introduce requirements that teachers must meet in order to be certified, such as holding a minimum educational qualification. While requiring teachers to have a certain level of education (or in some cases encouraging them to have higher-than-minimum levels) does not necessarily imply higher quality teaching, most OECD countries require teachers to hold at least a Bachelor's degree, though Master's degrees are increasingly mandatory to teach certain subjects or grade levels. Other certification requirements include asking ITE graduates² to pass a certification examination that is aligned with teacher standards, and/or implementing compulsory probationary periods.

Examples of these types of requirements are present in some EECA countries (Table 3.3), though many parts of the region have yet to introduce such quality assurance measures. In countries where qualification and certification standards exist, they have been introduced fairly recently, leaving many in-service teachers with very different qualification levels.

Table 3.3. Requirements to become a fully certified teacher

	Level of education	Passing a central examination after ITE	Completion of a probationary period
Baku (Azerbaijan)	Bachelor (or sub-Bachelor if trained in a college)	X	
Belarus	Specialist or Master		
Bulgaria	Bachelor	X	
Croatia	Bachelor (Master for upper levels)		X
Georgia	Bachelor	X	
Kazakhstan	Bachelor	X (in 2021)	
Moldova	Bachelor (Master for upper secondary)		
Romania	Bachelor	X	X

Turkey	Bachelor	X	X
Ukraine	Bachelor or a professional qualification		X (internship)

Sources: (European Commission/EACEA/Eurydice, 2020^[19]), *Compulsory Education in Europe – 2020/21. Eurydice Facts and Figures*, <http://dx.doi.org/10.2797/20126>, (Kitchen et al., 2017^[6]), *OECD Reviews of Evaluation and Assessment: Romania*, <https://dx.doi.org/10.1787/9789264274051-en>; (Kitchen et al., 2019^[20]), *OECD Reviews of Evaluation and Assessment: Student Assessment in Turkey*, <https://dx.doi.org/10.1787/5edc0abe-en>, (Li et al., 2019^[4]), *OECD Reviews of Evaluation and Assessment: Georgia*, <https://dx.doi.org/10.1787/94dc370e-en>, (OECD, 2020^[21]), *Raising the quality of initial teacher education and support for early career teachers in Kazakhstan*, <https://doi.org/10.1787/68c45a81-en>, Ukraine Ministry of Economic Development, Trade and Agriculture (2020), *Professional Standard of a Primary School Teacher, and a Teacher of a General Secondary Education Institution*, <https://www.me.gov.ua/Documents/Detail?lang=uk-UA&id=22469103-4e36-4d41-b1bf-288338b3c7fa&title=RestrProfesiinikhStandartiv>, (accessed 23 April 2021).

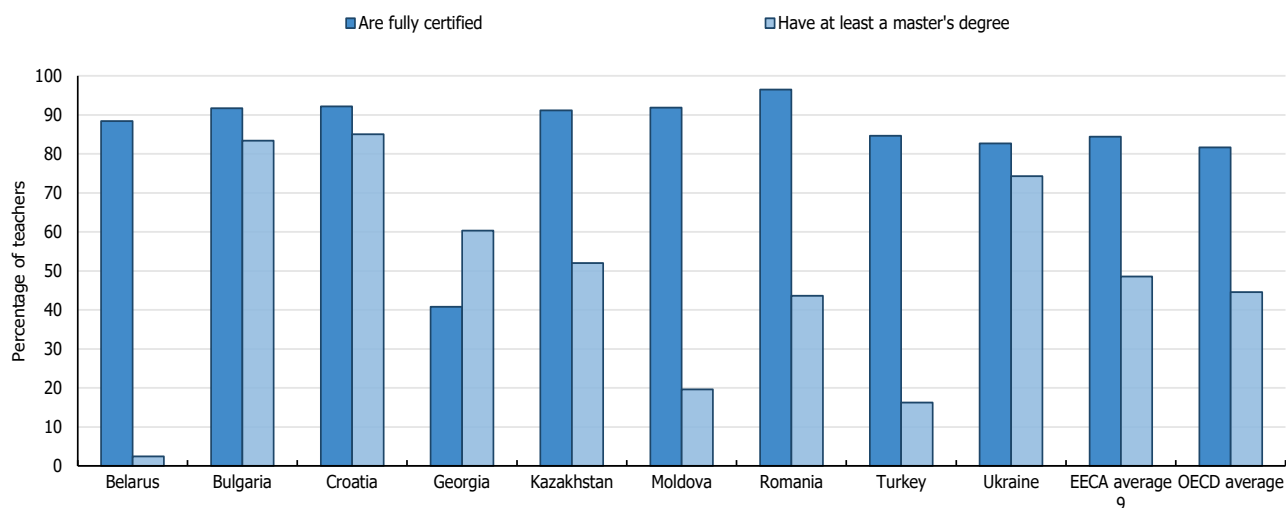
Data from PISA

Teachers in EECA countries are as likely to be certified and hold a Master's degree as teachers in OECD countries

PISA 2018 asked school principals to report the number of teachers in their schools who are “fully certified by an appropriate authority”, and the number of teachers who hold advanced qualifications³. Almost all EECA countries with data have a share of fully certified teachers above the OECD average (see Figure 3.4). The exception is Georgia, which has one of the lowest shares of certified teachers among all PISA-participating countries. Georgia's low rate might be related to the difficulty the country has had in implementing a new teacher certification scheme, particularly among older in-service teachers, that was introduced in 2015 (Li et al., 2019^[4]). It should be noted that education systems create their own definition for “full certification” in PISA, meaning that requirements can vary across systems. For instance, certification could signal that a teacher has received an ITE qualification, accumulated a minimum number of student-teaching hours, passed an exam, some combination of these criteria, or none of them.

On average in the EECA region 49% of teachers hold a Master's degree, which is similar to the OECD average, but there are large differences between countries. While over 70% of teachers in Bulgaria, Croatia and Ukraine have a Master's degree, only 2% do in Belarus, 16% in Turkey and 20% in Moldova. The low values in Belarus and Moldova might be related to the fact that many teachers hold five-year “specialist” degrees, which are not always classified as Master's degrees for international benchmarking purposes.

Figure 3.4. Teacher qualifications



Notes: Based on principals' reports.

Baku (Azerbaijan) is not included since the majority of data were missing.

The data for this figure were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), PISA 2018 database, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

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The most qualified teachers in EECA countries are disproportionately concentrated in urban schools

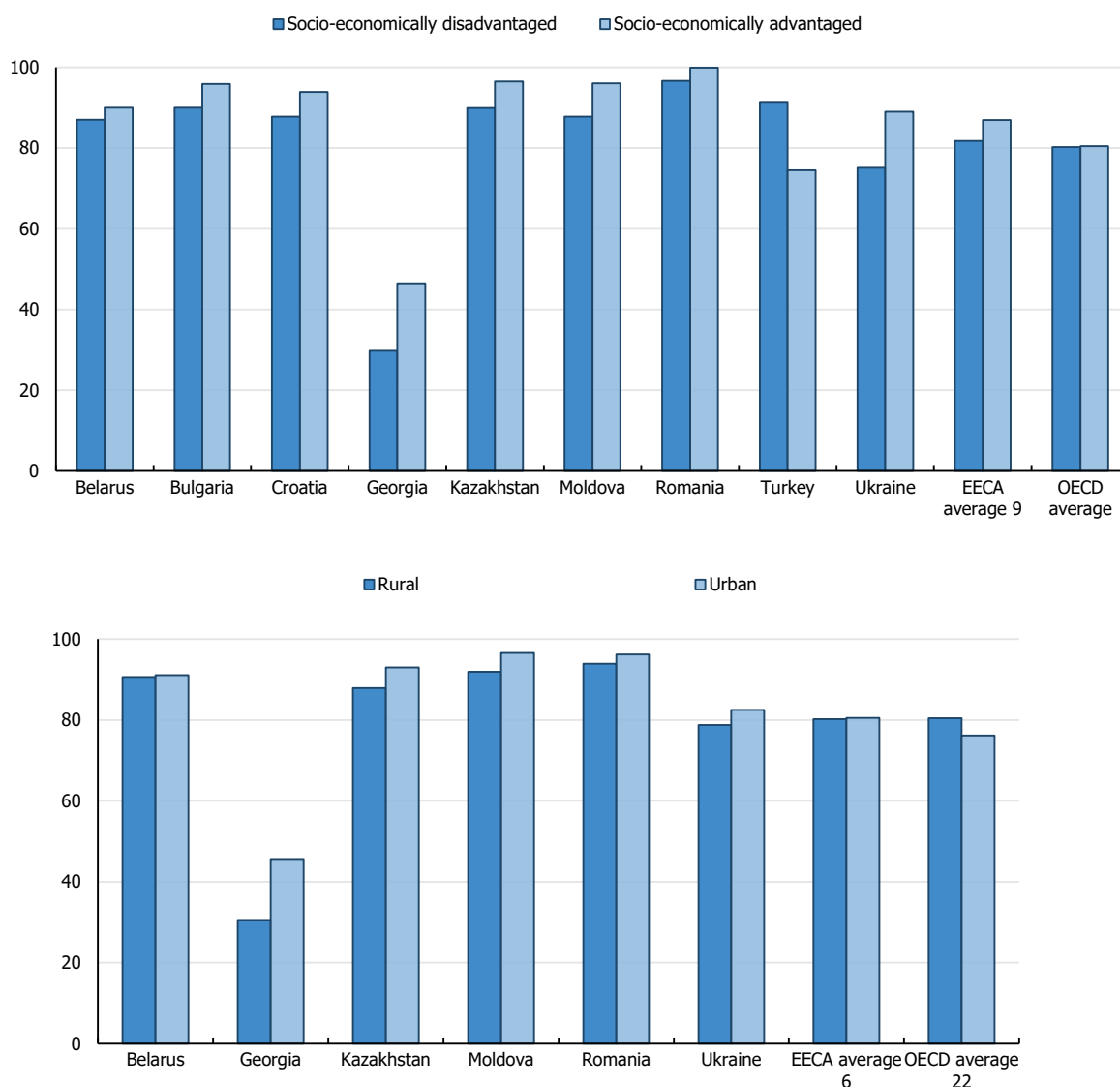
Highly qualified teachers are a valuable resource and it is important that they be allocated where they can achieve the greatest and most equitable outcomes. Internationally, the share of fully certified teachers is similar across socio-economically advantaged and disadvantaged schools and rural and urban schools (Figure 3.5). This trend is also found across EECA countries, which is likely reflective of the relatively high overall rates of certification across the region. There are, however, a few noteworthy exceptions. In Georgia and Ukraine, socio-economically advantaged schools have a greater share of fully certified teachers, while in Turkey socio-economically disadvantaged schools do.

A greater disparity can be seen with respect to teachers who hold at least a Master's degree. Across OECD countries, socio-economically advantaged schools have more teachers with at least a Master's degree by 10 percentage points. The difference in EECA countries is 9 percentage points, but the gap is particularly wide in Moldova (24 percentage points), Bulgaria (16 percentage points) and Romania (also 16 percentage points). In EECA countries with a large share of rural students, schools in urban areas have greater shares of teachers with at least a Master's degree (by 16 percentage points, compared to 10 across similar OECD countries). The gap is particularly large in Kazakhstan (34 percentage points) and Romania (20 percentage points).

Several reasons can help explain why better-educated teachers tend to be found in socio-economically advantaged and urban schools. Universities that can support advanced degree programs are more likely to be located in urban areas and newly graduated teachers might wish to work close to where they have established their homes. Socio-economically advantaged and urban schools might offer better teaching conditions and can better attract the most competitive candidates (OECD, 2019^[23]). These factors help explain why teachers in some EECA countries who work in disadvantaged schools are more likely to want to change schools more than teachers who work in advantaged schools (OECD, 2019^[5]). Without effective

policy interventions to deliberately allocate teachers to certain areas, these trends can contribute to inequities in student achievement, especially in EECA countries, which have larger shares of rural schools and struggle with equitable school resourcing (see Chapter 2).

Figure 3.5. Percentage of fully certified teachers, by school characteristics



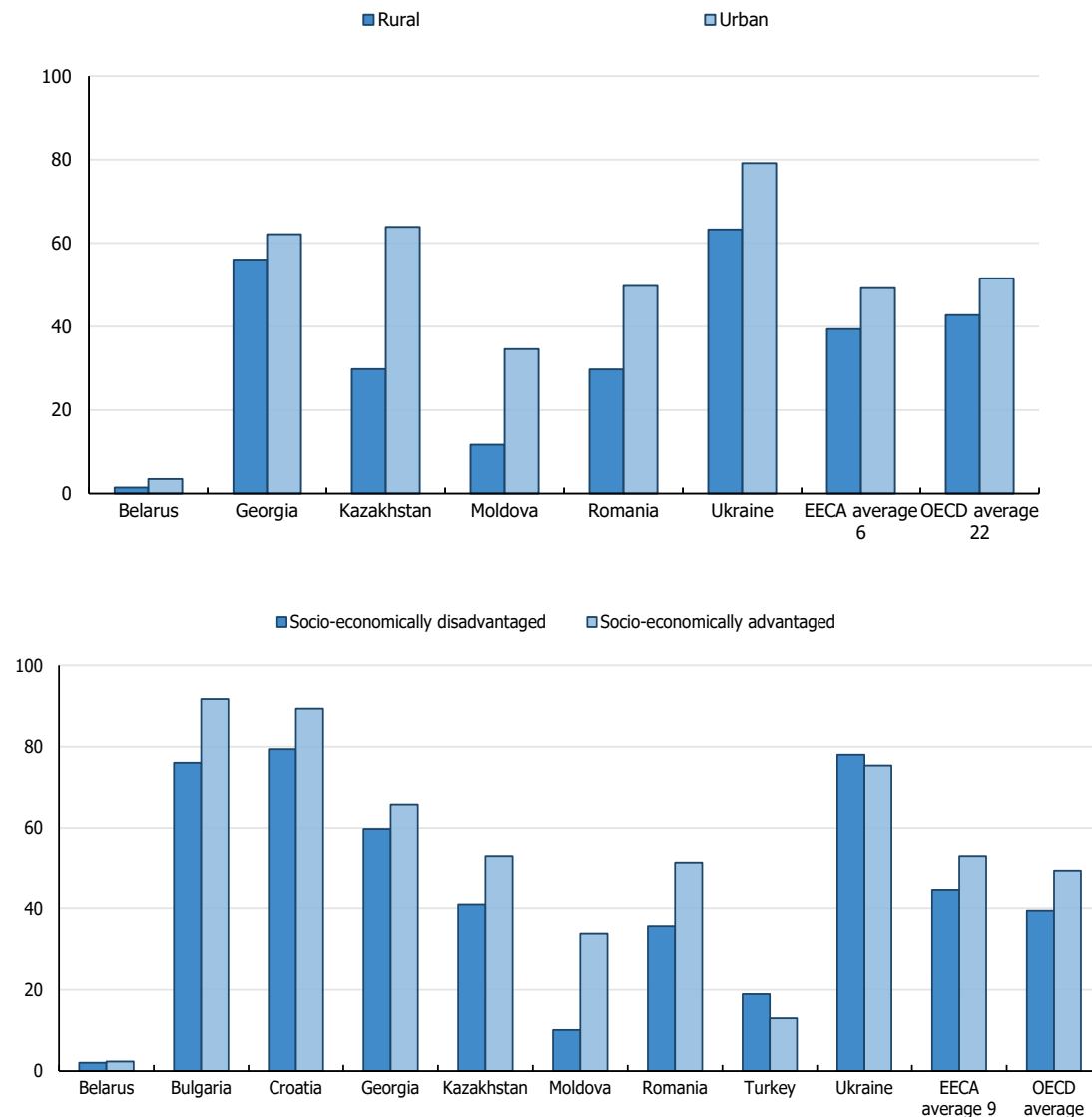
Notes: Missing countries on the bottom part of the figure had 3% or less of 15-year-old students enrolled in rural schools (hence “EECA average 6” and “OECD average 22”).

The data for this figure were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), *PISA 2018 database*, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

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Figure 3.6. Percentage of teachers with at least a Master's degree, by school characteristics



Notes: Missing countries on the top part of the figure had 3% or less of 15-year-old students enrolled in rural schools (hence "EECA average 6" and "OECD average 22").

The data for these figures were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), PISA 2018 database, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

StatLink  <https://stat.link/a8bu2p>

There is little relationship between teacher qualifications and student outcomes or the use of modern teaching practices in EECA countries

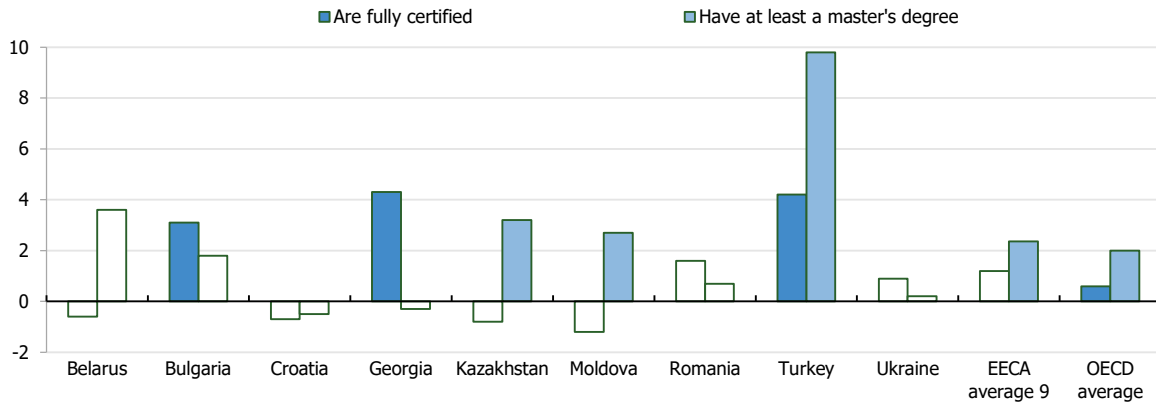
Implicit in policies about teacher qualifications is the belief that better qualified teachers help improve student outcomes. Countries trust that acquiring qualifications is an indicator that teachers can help students learn. Internationally, PISA data show that there is a positive relationship between teacher qualifications and student learning. Students from schools with greater shares of teachers who are fully

certified and who have Master's degrees tend to have higher performance, even after accounting for the students' and schools' socio-economic status.

In EECA countries, the results are less conclusive. On average across the region, there is no relationship between the share of certified teachers in a school and student performance, after accounting for student and school socio-economic status, though there is a positive relationship in Bulgaria, Georgia and Turkey. This more varied picture might in part be explained by issues with the quality of teacher education in the region and the lack of robust quality assurance (Kitchen et al., 2017^[6]; OECD, 2020^[12]). Across the region, there is a positive relationship between the share of teachers with a Master's degree and student outcomes, after accounting for student and school socio-economic status, though this relationship is driven strongly by Turkey (in Kazakhstan and Moldova the relationship is also positive).

Figure 3.7. Teacher qualifications and reading outcomes

Change in reading performance for every 10% increase in the share of teachers who:



Notes: Baku (Azerbaijan) is not included since the majority of data were missing.

Values that are statistically significant are shaded.

The data for these figures were collected before Costa Rica became an OECD member.

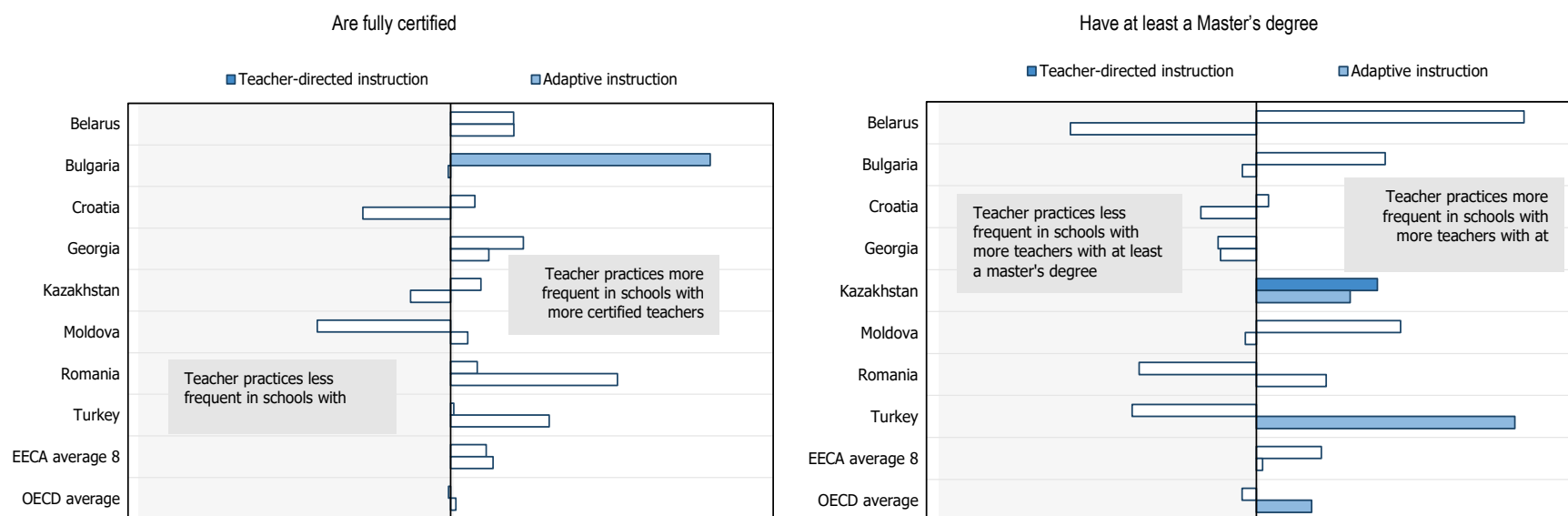
Source: (OECD, 2019^[14]), *PISA 2018 database*, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

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With respect to teaching practice, there is no relationship on average between teacher qualifications and the use of adaptive instruction (Figure 3.8). The exceptions are Bulgaria, where the share of certified teachers is positively correlated with more adaptive instruction, Turkey, where the share of teacher's with a Master's degree is associated with more adaptive instruction, and Kazakhstan, where the share of teacher's with a Master's degree is associated with both more teacher-directed and adaptive instruction. These findings provide further evidence that certification and educational requirements in the EECA region are not always adequate and highlight the need to make the mechanisms more accurately signal high-quality teaching.

Figure 3.8. Teacher qualifications and teacher practices

Change in teacher practices for every 10% increase in the share of teachers who:



Notes: Baku (Azerbaijan) is not included since the majority of data were missing. No data for Ukraine were available.

Values that are statistically significant are shaded.

The data for these figures were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), *PISA 2018 database*, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

Policy implications

Attracting high-quality teaching candidates and improving initial teacher education programmes can help strengthen the link between teacher qualifications and classroom practices

EECA countries should address issues that might be affecting the value and quality of ITE, so holding certain teacher qualifications can more reliably signal good teaching. While there are several approaches that countries can consider, two important reforms are strengthening the intake of students into ITE programmes, and improving the quality of the programmes themselves.

Student intake

United Nations Children's Fund (UNICEF)-OECD policy reviews have revealed that, in many countries in the region, entry into regional ITE programmes is not very selective, which is partly a reflection of the perceived status of the teaching profession in the region. In Georgia, for example, entrants into four-year, concurrent ITE programmes often had lower scores on the former national entrance examination than students who enrolled in other programmes (Li et al., 2019^[4]). A similar situation is observed in Ukraine (OECD, 2017^[7]). These circumstances are problematic because individuals entering ITE might have lower academic abilities, and some may not regard teaching as their first career choice, and thus not be highly motivated to teach. Tertiary faculty might spend valuable learning time teaching candidates basic content knowledge and how to be good students, rather than how to be good teachers.

Some countries in the region are taking steps to improve the quality of students who enter ITE programmes. For example, in 2020 Kazakhstan raised the minimum required score on the national entrance examination by 10 points (out of a possible 100) for ITE programmes, which makes it 20 points higher than the minimum score needed to enter tertiary education in general. It should be noted, however, that Kazakhstan has a relatively young teacher population compared to some countries in the region. Therefore, there is less risk of encountering teacher shortages by raising ITE entrance standards, and more value to be gained by doing so. Georgia, which has much older teacher workforce, is emphasising a recently introduced consecutive programme that focuses on developing the pedagogical skills of candidates and mid-career professionals who have already acquired subject matter expertise (Li et al., 2019^[4]).

ITE quality assurance

Findings from the UNICEF-OECD policy reviews suggest that ITE programmes in EECA countries are often characterised by fragmentation. Weak quality assurance, combined in some countries with a sparsely distributed population across a large territory, has led to a large variety of ITE providers, each with differing levels of quality. In Kazakhstan, for example, ITE is offered at 86 universities and 277 teacher colleges (OECD, 2020^[21]). A majority of Romania's 83 universities offer some form of ITE (Kitchen et al., 2017^[6]).

To address issues related to ensuring the quality of diverse ITE offerings, several EECA countries have introduced quality assurance mechanisms at several stages of the ITE process. Two important mechanisms are programme accreditation and certification examinations.

- Programme accreditation – Strong accreditation processes that are aligned with teacher standards give ITE providers a common reference point around which to build their curricula. In Kazakhstan, ten separate organisations accredit ITE programmes, but the country is moving towards focusing on two in order to ensure more consistent, high-quality ITE (OECD, 2020^[21]). In Turkey, the Evaluation and Accreditation Association of Educational Faculty Programs will act as the external accrediting body for ITE and sets accreditation requirements (Kitchen et al., 2019^[24]).

- Certification examinations – When properly designed and aligned with national teacher standards, certification examinations can act as an important, external validation that teacher candidates, regardless of where they were trained, have the knowledge and competences needed to be effective teachers. They can be particularly important when institutional quality assurance is weak and/or there are concerns around the integrity of teacher appointment processes. Only four EECA countries currently administer such examinations, though Kazakhstan is planning to introduce one in 2021 (Table 3.3).

Introducing mandatory probation can help validate teachers' knowledge and skills in an authentic environment

In many OECD countries, teachers are not fully certified until they complete a mandatory probation period. This process can help teachers develop their skills in real-life situations, and allow schools to make a more informed decision about whether a teacher is ready to work in a particular environment (OECD, 2013^[16]). Given the fragmentation of the ITE landscape in some EECA countries, introducing probation periods can be a particularly valuable policy consideration.

Only three out of ten EECA countries require teachers to pass a probationary period before becoming fully certified (a fourth requires an internship) (Table 3.3). However, teacher mentorship is well established in the professional culture of the region. In Kazakhstan, for example, 97% of lower secondary principals report that their schools have some kind of mentoring programme, as do 93% of principals in Croatia (the average of 30 OECD countries is 64%) (OECD, 2019^[5]). Policymakers in these countries can leverage these existing mechanisms and combine them with national teacher standards and career structures to create more formal probationary processes for new teachers.

Incentivising teachers to work in high need areas can make teacher allocation more equitable

Some OECD countries have introduced financial incentives to encourage teachers to work in areas where they are most needed, such as setting higher salaries for teaching in schools that have greater shares of students from disadvantaged backgrounds (OECD, 2019^[23]). While these efforts are not always successful at equitably allocating teachers (in-school support can improve the impact of these policies) (ibid), they can be considered in the EECA region, where teacher salaries are comparatively lower and many countries are already exploring ways to boost compensation (see section on Professional development).

Belarus's recently revised teacher compensation scheme increases a teacher's salary if they work in rural areas, with students from more vulnerable backgrounds, such as those from economically disadvantaged families and those who are orphans (Ministry of Education of the Republic of Belarus, 2019^[25]). However, it should be noted that these salary supplements are still generally lower than those given for teaching students who compete in Olympiads, which could moderate the policy's effectiveness. Kazakhstan has invested resources on more equitably allocating teachers immediately after ITE. The country has created a scholarship program that funds teacher candidates' ITE on the condition that they teach for at least three years in rural areas (OECD/The World Bank, 2015^[26]).

Professional development

Education systems need to help teachers keep their skills up-to-date in relation to system-wide goals and expectations. It is therefore crucial that teachers have access to meaningful and relevant professional development opportunities, both school-based and externally provided, that align with teacher standards and broader education priorities. However, data from PISA and UNICEF-OECD policy reviews reveal that professional development in EECA countries is lower than international comparisons, especially for

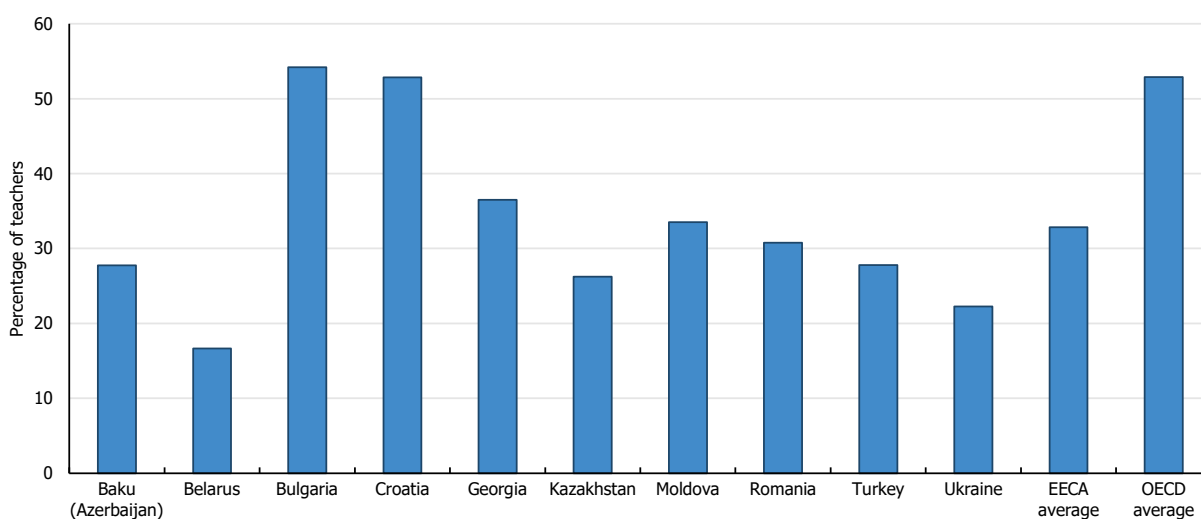
teachers who teach in more disadvantaged contexts. Without greater commitment to equitable and effective professional development, countries in the region will likely have continued difficulty in improving teaching and learning.

Data from PISA

Teachers in EECA countries, especially those who work in disadvantaged requirements, are less likely to participate in professional development

Results from PISA 2018 suggest that, on average, teachers in EECA countries participate in professional development at lower rates compared to international benchmarks (Figure 3.9). Only teachers in Bulgaria and Croatia participated in professional development at rates comparable to the OECD average, while teachers in Belarus participated in professional development the least of all PISA-participating countries. Turkey's comparatively lower rate might be partially explained by the fact that professional development is generally not mandatory for teachers (Kitchen et al., 2019^[20]).

Figure 3.9. Percentage of teachers who participate in professional development



Notes: Based on principals' reports.

The data for these figures were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), *PISA 2018 database*, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

StatLink  <https://stat.link/qzd7h8>

An important question regarding professional development is to whom it is made available. Availability is particularly important for teachers who work in disadvantaged environments, as they might need more support to effectively teach their students. Looking at the difference between advantaged and disadvantaged schools, in Croatia and Turkey more teachers from socio-economically advantaged schools attended professional development in the last three months compared to teachers in socio-economically disadvantaged schools (Figure 3.10). Evidence from PISA shows that teachers in urban schools in Kazakhstan are more likely to attend professional development than those in schools located in rural areas. In other countries with large shares of rural students there was no difference. Evidence from TALIS 2018 shows that in Georgia and Romania teachers who teach in urban schools are more likely to participate in professional development activities than their colleagues teaching in rural schools (OECD, 2019^[5]).

Figure 3.10. Participation in professional development by school type

Difference between socio-economically advantaged and disadvantaged schools according to:



Notes: Values that are statistically significant are shaded.

The data for these figures were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), *PISA 2018 Database*, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

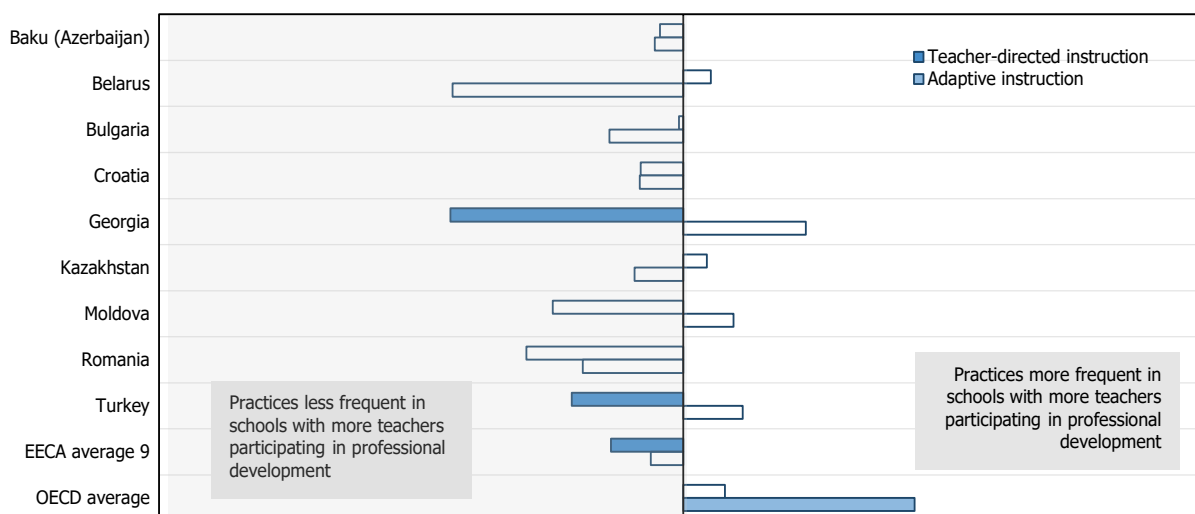
StatLink  <https://stat.link/rspmb9>

Links between professional development and desired teaching practices are weak

Across the OECD, data from PISA reveal a positive association between the amount of professional development teachers receive and how frequently they use adaptive instruction (Figure 3.11). In EECA countries, however, the trend is less conclusive. In no country was there an association between more professional development and greater use of adaptive instruction. However, students in schools where teachers participate in more professional development, especially those in Georgia and Turkey, tended to report less teacher-directed instruction. These findings are corroborated by TALIS 2018 results. A smaller share of lower secondary teachers from Bulgaria and Turkey (compared to the OECD average) feel that professional development activities had a positive impact on their teaching practices (OECD, 2019^[5]).

Figure 3.11. Professional development and teacher practices

Change in teacher practices for every 10% increase in the share of teachers who participate in professional development



Notes: Values that are statistically significant are shaded.

The data for these figures were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), *PISA 2018 Database*, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

StatLink  <https://stat.link/gwh47d>

Findings from UNICEF-OECD policy reviews offer several possible explanations for why professional development in the EECA region might not be consistently supporting teachers to use modern teaching practices. One issue is that, as previously mentioned, teacher standards are not widely implemented in the EECA region (see Table 3.2). Without a system-wide reference point, training providers might not know what the overall aims of professional development should be and offer fragmented opportunities instead. Additionally, teacher appraisal in the region appears to further exacerbate this issue because evaluations of teacher effectiveness do not always identify teachers' strengths and weaknesses. As a result, teachers who may need support in using adaptive instruction might be trained in unrelated topics or not receive any training at all. Finally, professional development in the region is often linked with teacher compensation and promotion in ways that can incentivise teachers to view participating in training as a box ticking exercise, rather than activities designed to make them better teachers.

Policy implications

Improve access to professional development opportunities

Findings from UNICEF-OECD policy reviews reveal that several barriers might be preventing more teachers from participating in professional development. One important issue is funding. Although teacher salaries are generally low, teachers can be largely responsible for financing their own professional development, which is the case in Romania (Kitchen et al., 2017^[6]). These situations can exacerbate inequity, as teachers from more socio-economically advantaged areas might be able to raise more funds for training than teachers in more disadvantaged areas. Another related issue is the proximity of training

providers. In Georgia, participation in professional development is publicly subsidised, but training sites can be far from where teachers live. In these cases, teachers must pay for their own travel and accommodations and arrange to cover their teaching responsibilities (Li et al., 2019^[4]). Schools can help support teachers in these cases, such as by finding substitute teachers, but this type of support is not always offered. According to TALIS 2018 data, lower secondary teachers in Kazakhstan and Turkey report that there is lack of employer support to help them participate in professional development (OECD, 2019^[5]).

EECA countries are undertaking several measures to make professional development more accessible. For example, Bulgaria provides government funding directly to schools to help teachers participate in professional development (forthcoming review). As part of its 2017-23 Teacher Strategy, Turkey is constructing new teacher academies around the country to make professional development opportunities easier to reach (Kitchen et al., 2019^[20]). Technology can also be a useful tool for increasing access to professional development. In response to the COVID-19 pandemic, a number of professional development providers in Bulgaria now offer training digitally, and the government has removed the requirement that training be held in person (forthcoming review).

Raise the quality and relevance of professional development

Evidence from PISA and UNICEF-OECD policy reviews reveal that teachers who do participate in professional development do not necessarily demonstrate better practice. This finding suggests that EECA countries should take steps not only to make professional development accessible, but also to ensure that the training that teachers receive is relevant and effective. Developing such assurance measures is particularly important in the EECA region as increasing the number of training providers across vast areas can raise issues around training quality.

One important method that many OECD countries employ to assure the quality of professional development is to establish rigorous accreditation procedures for training providers. These procedures help link training to specific knowledge and skills outlined in teacher standards and can help coordinate the offers of non-state providers (e.g. from private and non-profit sectors) (OECD, 2013^[16]). Many EECA countries have created accreditation standards and processes. As previously mentioned, Turkey plans to open several teacher academies to improve access to professional development; the government is also creating accreditation standards for these new academies to help ensure their quality (Kitchen et al., 2019^[20]). Georgia recently established the Teacher Professional Development Centre to oversee teacher professional development in the country. In addition to accrediting training opportunities, the Centre has led many efforts to improve the quality of professional development, such as the Georgia Primary Education Project (G-PRIED), which trained almost 20 000 teachers in using modern pedagogical techniques (Li et al., 2019^[4]). This project was particularly effective because it situated the training in school environments where teachers work on a daily basis (ibid).

Furthermore, the types of job-embedded, school-based professional learning that many OECD countries promote, and that are shown by research to be particularly effective in helping teachers adopt new methods, is lacking in some EECA countries (Kitchen et al., 2017^[6]). Similarly, despite high rates of mentoring, these relationships in the region are not always structured and well resourced, which is important to making practice-centred, teacher-led professional development impactful (OECD, 2020^[21]). Governments in the region can consider strengthening these school-based approaches to professional development in order to help improve teacher practice.

Adopt holistic approaches to teacher appraisal to more accurately identify professional development needs

To direct training resources efficiently, teachers need to have accurate appraisals of their competences. Evidence from PISA and UNICEF-OECD policy reviews highlight the need to promote a more balanced approach to evaluating teacher quality in the EECA region. In particular, indicators and techniques used

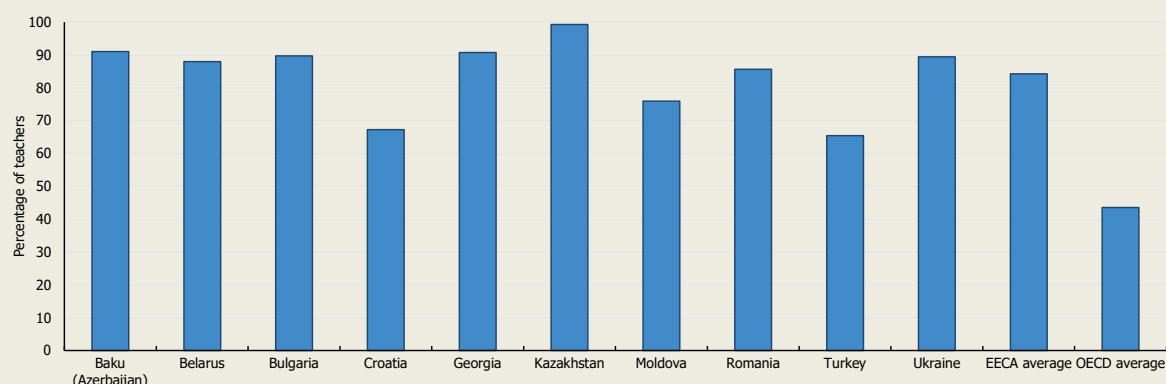
to measure teacher effectiveness need to go beyond student results in academic competitions (e.g. international Olympiads) and on summative tests (Box 3.2), and how much teachers engage in activities that might not be related to student learning (e.g., Georgia's appraisal process verifies, among other criteria, whether teachers have written blog posts) (Li et al., 2019^[4]). Teacher appraisal should instead place greater emphasis on the quality of teachers' interactions with students and their ability to create an inclusive classroom environment where each student is encouraged to achieve their potential.

Box 3.2. Using student assessment to appraise teachers

Data from PISA show that in EECA countries 84% of students are in schools whose principal reported that student assessments are used to make judgements about teachers' effectiveness, almost double the OECD average (Figure 3.12). All EECA countries have values greater than the OECD average, and Kazakhstan has the highest such percentage among all PISA-participating countries (almost 100%). Compared to more authentic measures of teacher effectiveness, this metric is particularly problematic because it is shaped by students' background, their previous preparation and other circumstances that are beyond the teacher's control. Using student assessment results to judge teacher effectiveness can be especially unfair towards teachers who teach more disadvantaged students, and it could incentivise teachers to help high-achieving students excel rather than helping all students learn.

Figure 3.12. Use of student assessment to evaluate teachers


Percentage of students in schools whose principal reported that student assessments are used to make judgements about teachers' effectiveness



Notes: In Baku (Azerbaijan) 50-75% of the sample is covered.

The data for these figures were collected before Costa Rica became an OECD member.

Source: (OECD, 2019^[14]), *PISA 2018 database*, Table V.B1.8.1, <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

StatLink  <https://stat.link/n8khaz>

There are several policy options that EECA countries can consider in order to promote a more authentic appraisal of teacher quality. First, the appraisal process and associated tools need to reinforce a more holistic approach. Many countries in the region, such as Kazakhstan, have made classroom observations mandatory in the appraisal process as they are one of the most authentic tools used internationally to assess teachers (OECD, 2013^[16]). However, UNICEF and the OECD have recommended that such observations be conducted continuously (not only when teachers are appraised) so teachers can be consistently made aware of their performance and how to improve (OECD, 2020^[12]). EECA countries are

also more strongly integrating school-based staff in the appraisal process in addition to external actors, which can help ensure that an evaluation of a teacher effectiveness is made by those who are most knowledgeable about the teacher and his/her context (OECD, 2013^[16]). In Bulgaria, for example, a school-based pedagogical council plays a significant role in the regular appraisal process (forthcoming review).

Another way to improve the how teachers are appraised, and thus the relevance of the professional development to which they are directed, is to develop the instructional leadership skills of school principals as they are often central in teacher appraisal processes. Developing the principal role in this way is very challenging and measures should focus on all aspects of their career, including their recruitment, training, evaluation, continuous improvement, and giving principals time to improve. For example, Kazakhstan has created a Master's level programme in educational leadership at the prestigious Nazarbayev University to help with principal recruitment and initial training (OECD, 2020^[27]). While it is the only such programme in the country, and developing similar programmes at other universities would be helpful, this effort nevertheless serves as an example of a promising approach because it signifies the importance of the principal role and that the country is investing considerable resources into developing it.

Review teacher compensation packages to strengthen the link between professional development and improving practice

To encourage teachers to seek professional development, many countries link participating in training with greater compensation and/or promotion along a performance-based career path (OECD, 2013^[16]). Several EECA countries adopt a similar approach. In Kazakhstan, participating in professional development is compulsory for teachers to maintain employment, be promoted and increase their salaries (OECD, 2019^[5]). In Georgia, engaging in professional development activities represents one way (though not the only way) of accumulating credits, which are needed for teachers to be promoted to the senior levels of the country's career structure (Li et al., 2019^[4]). While these measures are generally positive, the context of teaching in EECA countries can potentially distort how teachers engage with professional development.

Teacher base salaries are comparatively lower than international benchmarks. In some cases, teachers are compensated according to the hours they work (the so-called *stavka* system) (OECD/The World Bank, 2015^[26]), which tend to be lower in the EECA region (see Chapter 2). In response, many countries have established complex systems of recognised supplementary activities through which teachers can augment their compensation (participating in professional development is often one of these activities) (OECD, 2017^[7]; Kitchen et al., 2017^[6]). In such an environment, teachers can be motivated to engage in training in order to earn more compensation, rather than to improve their practice. Georgian authorities have remarked that their system of credit accumulation has sometimes led to credit hunting behaviour from teachers, instead of encouraging teachers to focus on how to help students learn (Li et al., 2019^[4]).

Many EECA countries are reviewing how teachers are compensated to better align their incentives for engaging in training with the aims of professional development. In 2019, Azerbaijan increased teacher salaries by around 20% on average (Kerimkhanov, 2019^[28]). Georgia has continuously increased teachers' base salary to reflect their total workload, and not just their teaching hours, which can help lessen their motivation to participate in quick win training activities. Compensating teachers more competitively can also help decrease their incentives to provide private tutoring, which can help contribute to greater educational equity (OECD, 2017^[7]).

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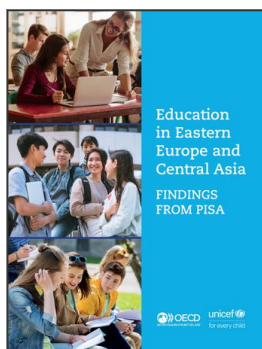
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Notes

¹ To account for differences in response style across countries and economies (e.g. if students from a country tend to respond more positively or negatively in general), OECD analysts adjusted the value of each individual index according to the average response across all indices.

² Since only one Western Balkan economy took the PISA teacher questionnaire in 2018, this paper does not discuss teachers' own experiences with ITE.

³ Level of qualification refers to Bachelor's degree, Master's degree, or doctoral degree.



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