Chapter 4

School resource utilisation in Kazakhstan

In Kazakhstan, school leadership responsibilities are formally distributed and include instructional leadership. This is dictated by the established norms, which recognise that strategic and pedagogical leadership cannot be exercised over time by one person alone. In practice, however, the level of interaction and shared vision among members of school leadership teams observed by the review team suggest that a hierarchic model prevails over a flatter distributed leadership structure. Also, there is no systematic approach to school leadership development and few opportunities exist to take up training. A positive aspect is that students rarely repeat a year in Kazakhstan. There are some support strategies to address the learning gaps during the school year, for example through remedial after-school activities. However, the review team found little evidence of the provision of early support to avoid students falling behind, with personalised and intensive intervention. Furthermore, in Kazakhstan, classes are orderly, without loss of time for student behaviour or teacher absenteeism. The official instructional time is provided with few disruptions and complemented with widespread after-school activities. However, there are some concerns about the management of instructional time: multi-shift teaching, which is prevalent in Kazakhstan, might reduce the official instructional time; the school calendar is not adjusted to local conditions and needs; and instructional time for students in primary grades may be inadequate for students who come from disadvantaged backgrounds. Moreover, there are concerns that the current framework for teacher professional development is not responding adequately to teachers' needs: there is little flexibility in the current provision; it is unclear whether adequate learning opportunities for teachers are available; and incentives to engage in professional development seem to be increasingly related to salary increases and career advancement. Finally, Kazakhstan shows a clear commitment to external accountability based around school evaluation with a regular cycle of external school evaluations (school attestation) and a formal certification process for teachers (teacher attestation). However, the review team formed the impression that there is an over-emphasis on the accountability function of both teacher evaluation and school evaluation, with less attention paid to genuine professional discussions about effective teaching.

Τhis chapter analyses how resources can be effectively utilised, through specific policies and practices, to different priorities and programmes once they have reached different levels of the school system. Among other things, it considers how resources are matched to students' needs (e.g. grouping of students within schools; student support systems; programmes to prevent early school leaving); how teacher resources and teaching time are allocated to students so that they optimally respond to improvement priorities (e.g. class size, teacher-student ratios, use of teachers' time); how student learning time is organised (e.g. instruction time, length of school day); how school leadership is organised and distributed; how resources in schools are organised to create environments conducive to effective teaching and learning (e.g. outreach to parents and communities); and how school facilities and materials are used to support such environments (e.g. use of school facilities for afternoon tutoring or summer schools, use of ICT to complement face-to-face instruction).

Context and features

The workforce of schools

The workforce of schools in Kazakhstan is characterised by its large size and high degree of specialisation. The "Standard Staffing of Public Educational Organizations and List of Teaching Positions and Equal-Status Employees" (Decree no. 77, 2008) establishes the number of school leaders and support staff required in each school on the basis of its type, education level, and number of consolidated classes. Annex 4.A1 provides the detailed list and associated workloads of non-teaching staff in schools by number of consolidated classes.

Leadership team

Responsibilities for school leadership are distributed between the school principal, who holds the maximum authority of schools, and a number of deputies. The distribution of leadership is well-recognised in the legislation and well-established in schools. According to the Decree no. 77, each school might have a principal and three types of deputies with the following responsibilities:

- *School principal*: leads the overall school in compliance with norms; approves the school plan, staffing and number of classes; appoints other school leaders and recruits teachers; fosters pedagogical improvement and professional development and distributes rewards to the staff; ensures learning materials, equipment and physical infrastructure are safe and up-to-date; ensures that disadvantaged students are supported and no children are out-of-school in the neighbourhood; and, reports to administrative authorities.

- *Deputy principal for academic affairs*: coordinates and supervises pedagogical improvement, including consolidating and disseminating best teaching practices; plans school educational operations, such as composing the timetable of classes, and ensures compliance with

existing norms; participates in the recruitment of teachers and fosters their professional development; organises school evaluation, teacher appraisal and student assessments; and, ensures that equipment, materials and technology are safe and up-to-date.

- *Deputy principal for educational work*: organises and ensures the quality of extracurricular activities, and home-schooling for children with special needs; participates in the recruitment of, and supervises and supports the professional development of senior counsellors, after-school teachers, and home-school teachers; and, liaises with representatives of the community, law enforcement bodies, parents and Parents' committee.

- *Deputy principal for economic activities*: administers, procures and controls expenditure on material and financial resources (e.g. repairs, computers); supervises work on landscaping, gardening and cleaning; ensures compliance with rules for fire safety, occupational safety and health; and, monitors operation of the main building technology and energy equipment.

The number and responsibilities of leadership positions vary according to the size of schools. In primary schools, the main school leader is only formally recognised as a principal when the school has at least 8 classes and 240 students. The smallest schools (fewer than six classes) cannot employ a deputy. Schools with six to ten classes are required to employ deputies responsible for academic affairs and educational work half time, while responsibilities related to economic activities are not associated to a deputy position. Schools with more than 20 classes should have 1.5 deputies for academic affairs and educational work, and those with more than 30 classes are required to employ two deputies for each position. In schools that offer two languages of instruction, one deputy for academic affairs and one deputy for educational work are assigned to each language track. In addition, it is increasingly common among specialised schools such as gymnasiums and innovative schools to hire administrative managers (Mukhtarova and Medeni, 2013). Further information about school leaders is provided in Chapter 3.

Teachers who are most successful in their work and have extensive experience can be offered to lead the school's methodological association, or, as a one-time initiative, to take over some authority and responsibility for holding of workshops, conferences and other school events. Kazakhstan is one of the countries participating in PISA with the highest number of students attending school and in which principals report that teachers are involved at least once a month in decisions concerning the school (72%), a culture of continuous school improvement is being built (79%) and management practices reviewed (57%) (compared to 72%, 70% and 29% respectively in OECD countries) (OECD, 2013a).

Teaching workforce

Teachers represent the overwhelming majority of staff in schools. A profile of the teaching workforce is provided in Chapter 3. Small class size and student-teacher ratios result in a large number of teachers per school. In schools that offer two languages of instruction, it is common to divide teaching staff by the language track in which they teach. Within schools, teachers are grouped into methodological associations that meet regularly to discuss the organisation of instruction and teaching practices.

Teachers do get the opportunity to play roles within schools which diversify their careers. Examples include mentor for beginning teachers, head of the school's methodological association, project co-ordinator for a specific school initiative and

chairman of the school's teacher trade union committee. Some of these functions can be temporary and performed at the request of the school leader. School management has the autonomy to distribute specific, temporary functions to teachers within the school.

Learning support staff

In Kazakhstan, schools hiring staff whose main function is to assist the work of teachers is not usual practice. In other countries, such "Learning Support Staff" typically assist teachers in their instruction, provide support for students and contribute to the overall learning-related activities of schools. The most common learning support staff in Kazakhstan is laboratory assistants for subjects such as physics, chemistry, biology and computer science. Their work consists in maintaining laboratories, preparing experiments, and assisting teachers in conducting laboratory classes.

Other school staff

Schools have to employ a large number of support staff as determined by Decree no.77. A total of 13 other professional categories are stipulated to support the day-to-day operation of schools (e.g. accountant, psychologist, nurse, librarian, clerk, secretary, repair man, guard, doorman) (See Annex 4.A1). The number of positions per category depends on the type, level of education and number of consolidated classes of the school.

School and student arrangements

The extensive system of norms is designed to ensure equality in schooling conditions across the country. Norms for teachers, student-teacher ratios and "sanitary" conditions of schools mean that, within schools, most students are supposed to encounter comparable conditions. In the vast majority of schools, students study the same curriculum that specifies the grade-specific skills to be learned. Textbooks are provided to students in all schools; teacher guides and software are provided with the new textbooks.

School choice and student admission policies

Students have priority when enrolling in a school within their neighbouring zone, defined by the *rayon*, but have the right to attend any school in the country. If a school receives more applications than the permitted class and school size, the number of places available can be increased, with the agreement of *rayon* authorities, until the minimum area of 2.25 m^2 per student is reached. This possibly implies opening new classes when applicants are residents of the zone. Schools with a specific educational orientation are allowed to hold entry tests. A survey found that the two most important criteria used by parents when choosing a school for their children were the distance from home and the quality of the teachers (NCESE, 2013).

Class size and student-teacher ratio

Average class sizes in Kazakhstan are relatively small: 17.7 students in primary classes, 18.1 students in lower secondary classes, and 15.6 students in general upper secondary classes (the 2012 OECD averages were 21 and 24 for primary and general lower secondary education; OECD, 2014a). This hides considerable variations across *oblasts* and cities: from 9.9 students in primary education in North Kazakhstan to 25.6 students in primary education in Almaty City. The average class size in small-class schools (8.4 students) more than halves that of other schools (20.8 students) (see Table 4.1).

Similarly, student-teacher ratios are low when compared to those in the OECD area. The country average is 8.5, ranging from 5.5 in North Kazakhstan to 14.9 in Astana City (see Table 4.1). The 2012 OECD average was 15, 14 and 14 for primary, lower secondary and upper secondary education, respectively (OECD, 2014a).

Current regulations establish that, in general, school education, class size should not exceed 25 students. However, regional and local authorities have some discretion in adjusting class sizes. Also, class sizes can be smaller (20 students) in advanced grades and increased up to a per-student unit area of 2.25 m^2 if construction work is underway. Regulations also determine the maximum class size for special education classes. For example, class size cannot exceed 8 students for classes of visually-impaired students and for classes of hearing-impaired students.

Table 4.1. **Class size and student-teacher ratio, by region, grade and school size, 2011**

Oblast or City	Class size by grade			Class size by size of school		Average class size	Student-teacher ratio
	Grades 1-4	Grades 5-9	Grades 10-11 (12)	Small-class schools	Non small-class schools	Total	Total
Akmola	11.7	12.8	10.3	8.2	17.7	12	7.4
Aktobe	15.8	16.7	15.2	8.5	22.1	16.1	7
Almaty	19.2	19.4	14.3	8.5	20.5	18.6	8.7
Atyrau	19.1	18.5	15.2	17.5	18.4	18.3	9.1
East Kazakhstan	15.4	15.9	14.5	9.9	17.5	15.5	8
Zhambyl	19.1	19.2	16.4	12.5	20.5	18.8	8.3
West Kazakhstan	14	15.5	13.4	7.2	18.5	14.6	7.4
Karaganda	16.9	17.6	14.4	7.1	20.3	16.9	8.9
Kostanai	12.8	14.7	11.7	8.0	19.7	13.5	7.6
Kyzylorda	21.3	21.5	18.3	6.0	21.8	20.9	6.9
Mangystau	21.8	22.3	18.4	9.8	21.8	21.7	11.7
Pavlodar	13.8	13.7	11.8	6.9	21.5	13.5	7.7
North Kazakhstan	9.9	11.4	10.6	6.9	16.6	10.6	5.5
South Kazakhstan	20.8	21.7	20.8	10.6	21.7	21.2	9.2
Astana City	25.3	24.5	24.7	-	25.1	24.7	14.9
Almaty City	25.6	23.9	21.5	-	24.4	24.4	12.4
Country average	**17.7**	**18.1**	**15.6**	**8.4**	**20.8**	**17.6**	**8.5**

Source: IAC (2014), *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools: Country Background Report for Kazakhstan, www.oecd.org/edu/school/schoolresourcesreview.htm*.

Grouping of students

Schools are expected to compose classes within age-specific grade-level sections that are balanced across gender, social background and ability. Ability grouping is forbidden in grades 1-4 while students in grades 5-9 can be grouped on the basis of their electives and ability. Primary school students typically remain with the same teacher from 1st through fourth grade, in a practice called "looping" or "multi-year teaching" that is common in other countries. The separation of students into different educational programmes occurs only after grade 9, when students can choose to continue to tenth grade in the same regular school, in a more academic school (e.g. lyceum, gymnasium) or a vocational school, and are therefore separated into different educational programmes.

Student progression and support

There is no systematic national policy to support students who are falling behind and, while support strategies are typically organised at the school level, these tend to be little documented. The review team visited schools where teachers and psychologists provide students with some individual attention in the form of remedial after-school classes at schools. Some students told the review team that when they had difficulty with any subject, their first strategy was to discuss the problem with their teacher. In addition, they also reported attending free after-school classes taught at the school.

Grade repetition is rarely used in Kazakhstan. Official statistics indicate that only 0.04% of students repeated a year in 2012 (IAC, 2014). According to self-reported data in PISA 2012, about 2% of 15-year-olds had repeated at least a year throughout their schooling, a proportion much smaller than the average across OECD countries (12%) (OECD, 2013a). First grade students do not repeat a year in general, unless recommended by the psychological, medical or pedagogical services and upon the agreement of the parents. Students in grades two to four with unsatisfactory marks in fewer than two subjects are allowed to retake exams in those subjects and, if they successfully pass them, they progress to the next grade. Students in grades five to eleven with one or two subjects failed retake the exams and receive additional homework on these subjects during the summer. If students fail the exams, they might repeat the year or can be transferred to remedial classes if recommended by the psychological, medical or pedagogical services and upon the agreement of the parents. The pedagogical council of the school and the school principal might make students with unsatisfactory marks in three or more subjects repeat a year.

School climate

Schools in Kazakhstan appear to have a positive climate, with a relatively high emphasis on academic success (see Table 4.2). Over two-thirds of students participating in the 2011 Trends in International Mathematics and Science Study (TIMSS) studied in schools that had a high emphasis on academic success, as reported by principals and teachers. Similarly, about two thirds of students studied in schools where teachers reported the school was safe and orderly, and nearly all fourth grade students studied in schools where the principal reported hardly any problems with school discipline or safety. In comparison with other countries participating in TIMSS 2011, Kazakhstan reported the

Table 4.2. **Perceptions of principals, teachers and students of school climate, 2011**

|	Grade 4			Grade 8		
	Kazakhstan	International Average	Highest OECD	Kazakhstan	International Average	Highest OECD
"Very high" or "high" emphasis on academic success as reported by principals	70	66	93	65	60	82
"Very high" or "high" emphasis on academic success as reported by teachers	80	67	96	73	53	75
Safe and orderly school as reported by teachers	67	53	85	65	45	64
"Hardly any problems" with school discipline and safety as reported by principals	91	61	85	44	16	23
Students "almost never" bullied at school as reported by students	64	48	68	73	59	79

Source: Mullis, I. et al. (2012), *TIMSS 2011 International Results in Mathematics*, IEA TIMSS & PIRLS International Study Center, Lynch School of Education, Boston College, Boston.

least amount of problems with school discipline and safety at both fourth and eighth grades. Finally, about two-thirds of fourth grade students and three-quarters of eighth grade students reported that they almost never experienced bullying at school.

Instructional time and extracurricular activities

Time is one of the most important resources used in student learning. More instructional time does not necessarily translate into more learning but little instructional time limits learning opportunities. The length of the official school year in Kazakhstan is comparable to that of many OECD countries. The school year is decided centrally and is the same for all schools: 33 weeks for grade 1 and 34 weeks for other grades. Schools are in session six days a week, and students attend classes for 24 to 39 lessons per week, depending on their grade level. The total amount of instructional time in school, however, is shorter in Kazakhstan than in most OECD countries, because the lessons are shorter (45 minutes in duration, 35 for the first half of grade 1), with breaks between lessons. By the end of grade 9, students in Kazakhstan complete 12% fewer hours of schooling than the OECD average. Much of this time difference occurs in primary grades 1-2, where the instructional year is 25% shorter, in terms of the number of hours, than the OECD average for these grades. Secondary school instructional hours, which are also lower than the OECD average, are only about 5% lower for students aged 14 and are the same for students aged 15 (Figure 4.1). In addition, norms for students in Kazakhstan require two hours of individual and group counselling per week.

Figure 4.1. Compulsory instructional hours in Kazakhstan and OECD average, by age group, 2011
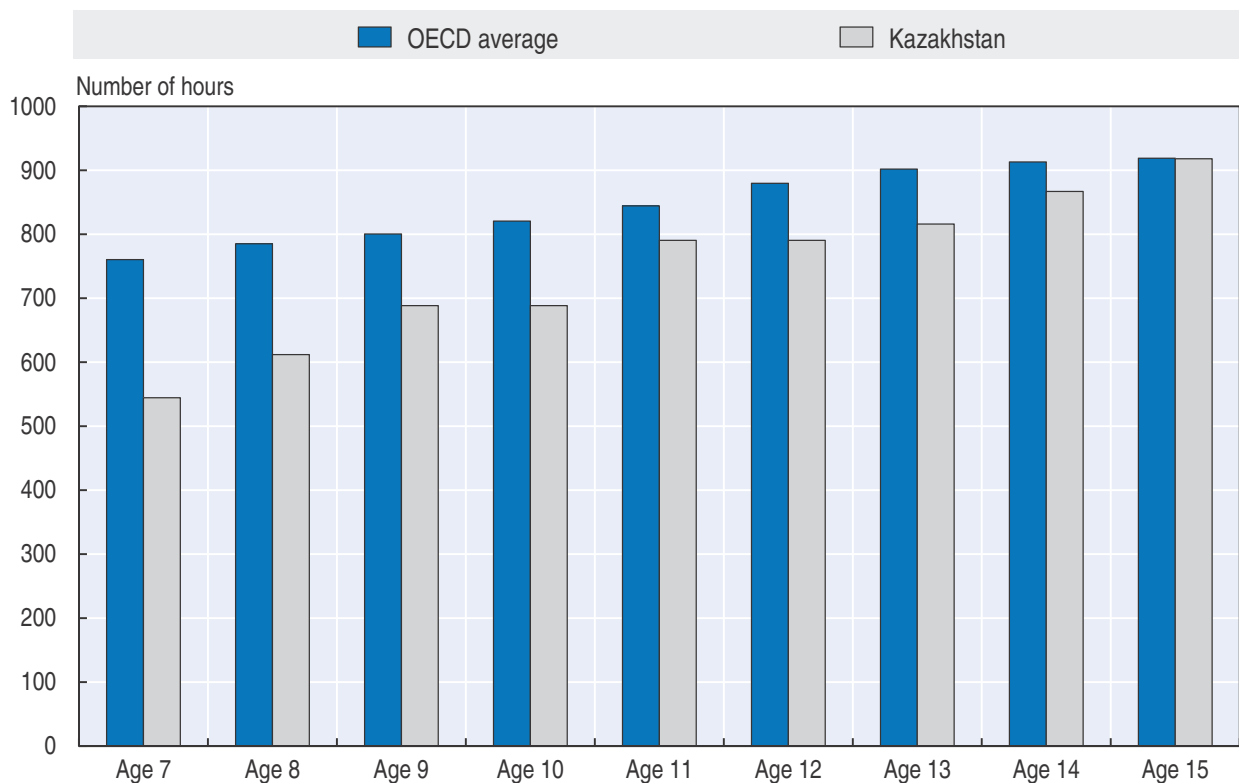
Sources: IAC (2014), *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools: Country Background Report for Kazakhstan,* *www.oecd.org/edu/school/schoolresourcesreview.htm*; and UNESCO Institute for Statistics database, *www.uis.unesco.org/DataCentre/Pages/ BrowseEducation.aspx.*

Instructional time is mainly devoted to the academic subjects of mathematics, science, language of instruction and foreign languages as the Kazakh curriculum is relatively narrow. In "tri-lingual" schools, students may study their own language of instruction (Russian, for example), Kazakh language and a foreign language (English, for example). At the primary level, reading is emphasised, whereas in grades 5-11 mathematics and the sciences are emphasised. Annex 4.A2 shows the number of lessons a student would be expected to have over the course of grades 1-11 in one trilingual school, by subject. A student who had completed grade 11 in this school would have studied the language of instruction (including reading in this language) for a total of 2 135 lessons – over half in the primary grades – mathematics for a total of 1 900 lessons, and the sciences for a total of 1 631 lessons.

Official instructional time is complemented by after-school "hobby groups" (or extra-curricular activities), which also provide students with the opportunity for a broader range of curricular experiences. In the 2012-13 school year, 53 272 such hobby groups, which operate on schools' premises, offered activities to nearly 881 437 enrolees; since some students may participate in more than one "hobby group" the number of enrolees may be greater than the number of individual students. These after-school "hobby groups" or "clubs" engage students in such activities as fine arts, choreography, vocal and choral groups, and performance groups. PISA 2012 data indicate that over 80% of 15-year-old students attend schools that offer such extracurricular activities as sports (99%), mathematics competitions (97%), service opportunities (97%), arts (89%), or school yearbook (82%) (OECD, 2013a). In addition, more than 30 000 children participate in sports clubs throughout the country and a growing number of "extended education" institutions (680 in 2013-14) provide further extracurricular activities in areas such as ecology, technology, tourism, music and fine arts, recreational camps, and sports.

Paid tutoring services by individual teachers are forbidden in school premises. However, teachers can provide such services outside their school as an additional paid activity. Teachers can also work in after-school activities provided by education organisations other than schools. However, individual tutoring can also be organised within the context of school activities, for which teachers receive an additional compensation.

School facilities

Many schools use facilities throughout the day. Two-thirds of the country's schools provide instruction in two shifts, and a small number of schools (1%) operate in three shifts. Elimination of three-shift schools was one of the central pillars of the "100 Schools, 100 Hospitals Program", yet 110 such schools were in existence in 2013 – up from 71 in 2011. The great majority (80%) of these are located in two *oblasts* – Almaty and South Kazakhstan – the regions with the fastest rates of student population growth (NCESE, 2014). A symptom of infrastructure shortages carried over from Soviet times, multi-shift teaching results in a full use of the existing facilities throughout the day. After-school use of facilities is also quite common for a wide range of extra-curricular and related activities. School auditoria are used by art and drama circles, gyms and sport fields by athletic teams associated with the school, and classrooms are often used for the delivery of evening classes to adults (if permitted by the local executive authorities) (IAC, 2014).

School facilities are also heavily utilised year round. Summer camps and summer school activities are typically organised during the break in the academic year. These activities serve a range of social purposes – from providing children with creative and intellectual stimulation during school holidays to engaging them in vocational and social work to serving the needs of children from vulnerable families. These activities, typically provided free of charge, reinforce the school's role as the centre of community life in Kazakhstan's towns and villages.

Professional development opportunities for teachers and school leaders

Working environment in schools

Teachers have many opportunities for professional development in their schools. In Kazakhstan, each school has at least one methodological association in which teachers meet regularly to discuss about instructional methods. A high share of students participating in the TIMSS 2011 study in Kazakhstan had teachers who reported that they frequently interacted with other teachers to: discuss how to teach a particular topic, collaborate in planning and preparing instructional materials, share what they had learned about their teaching experiences, visit another classroom to learn more about teaching and work together to try out new ideas (Mullis et al., 2012). This share was substantially higher than the international average for teacher collaboration. The review team visited schools that confirmed these survey findings. Teachers reported that they provided peer feedback to other teachers on their teaching and that school pedagogical councils (groups of teachers teaching the same subjects) discussed difficulties of individual students and tried to resolve problems as a group.

School leaders exercise a greater degree of instructional leadership than on average in OECD countries, according to self-reported data in PISA 2012 (see Figure 4.2). A large number of students in Kazakhstan attend schools whose principal reports that, at least once a month, he or she: makes sure that professional development activities for teachers are in accordance with the teaching goals of the school (84%); ensures that teachers work according to the school's educational goals (89%); discusses the school's academic goals with teachers at faculty meetings (65%); promotes teaching practices based on recent educational research (77%); praises teachers whose students are actively participating in learning (32%); draws teachers' attention to the importance of developing students' critical and social capacities (81%); takes the initiative to discuss matters when a teacher has problems in his/her classroom (78%); pays attention to disruptive behaviour in classrooms (85%); and works together with teachers to solve a classroom problem (82%) (OECD, 2013a). Moreover, all students are in schools whose principal reports that there is teacher peer review (i.e. lesson plans, assessment instruments, and lessons) and that the principal or senior staff observe lessons to monitor teaching practices, compared to 60 and 69% respectively in OECD countries. Also, a large number of students attend schools whose principal reports that at least once a month he or she uses student performance results to develop the school's educational goals (70%).

Figure 4.2. **Frequency of engagement in instructional leadership in Kazakhstan and OECD average, 2012**
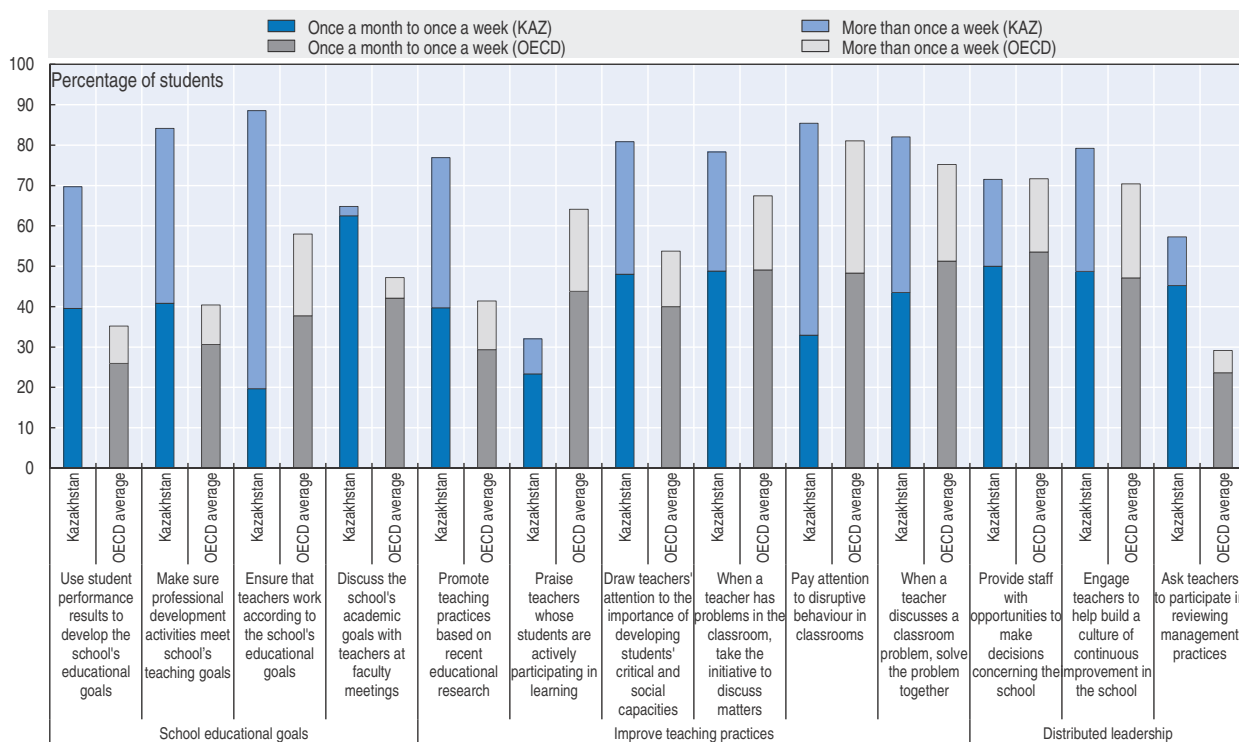
Note: This figure shows the percentage of 15-year-old students in schools whose principal reported in PISA 2012 that he or she engaged from once a month to once a week (dark blue) or more than once a week (light blue) in the actions related to instructional leadership displayed above during the previous academic year.

Source: OECD (2013a), *PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices*, *http://dx.doi.org/10.1787/9789264201156-en*.

Teacher professional development

Teachers are required to undertake professional development outside their schools at least once every five years, with activities that should not take longer than four months. Required professional development is publically financed and school principals take responsibility to manage professional development requirements within their schools. Teachers generally do not fund professional development. The appraisal of a teacher is not directly related to his or her professional development. While, a teacher may be advised to take a given professional development activity as a result of a teacher appraisal, he or she is not required to do so. Two types of professional development activities co-exist:

● *Traditional forms of professional development* activities such as courses, workshops and seminars, which are provided more locally through professional development institutions and grant a certificate for the teacher but do not lead to a salary increase. They usually last a minimum of 72 hours. When courses exceed 36 hours, the training typically involves project work and a final examination. These courses are offered by the regional branches of the National Center of Professional Development "Orleu".

● *"Higher-level" training programmes* which lead to a salary increase. These programmes reflect an ambitious reform of professional development in Kazakhstan and are led by the Center of Teaching Excellence at Nazarbayev Intellectual Schools in partnership with international partners (mainly the Faculty of Education at the University of Cambridge).

Objectives of the reform include the re-organisation of professional development provision in the country, the introduction of innovative practices in the school system on the basis of the experience accumulated at NIS schools and drawing on international best pedagogical practices. These programmes are proposed in three levels: (i) Basic: training focussed on the learning process in the classroom; (ii) Intermediate: training focussed on the learning process at the school; and (iii) Advanced: training focussed on improving school-wide teaching practice. These training programmes are provided by the Center of Teaching Excellence at Nazarbayev Intellectual Schools and the National Center of Professional Development "Orleu", although the latter can only provide basic and intermediate courses.

The selection of teachers who attend the advanced-level training is made by *oblasts'* Departments of Education, following a nomination by the school principal. Criteria for selection relate to number of years of teaching experience and evidence of successful teaching, ability to introduce innovative teaching, aptitude to disseminate own teaching experience, capacity to guide less experienced teachers, and knowledge of ICT technologies (see Table 4.A3.1 in Annex 4.A3). Each programme consists of three consecutive periods of one month duration: a theoretical introduction, on-the-job learning with online support, and a final off-the-workplace self-reflection, peer appraisal and an assessment of the changes in the teacher's pedagogical practice. Upon completion of the programme, teachers should prepare a portfolio, conduct presentations and pass an examination. In 2012, about 7% of teachers did not successfully complete the programme. The successful completion of a "higher-level" training programme leads to a higher salary: an extra 30%, 70% and 100% of the basic salary for a basic, intermediate and advanced programme respectively (see Table 3.4 in Chapter 3).

In 2013, 50 600 teachers attended shorter-term traditional forms of professional development provided by the regional branches of the National Center of Professional Development (NCPD) "Orleu". For the same year, the number of teachers attending "higher-level" training programmes provided by NCPD "Orleu" was 8 691 and 1 198 for the basic and intermediate levels, respectively, while the number of teachers attending the same type of programmes at the Center of Teaching Excellence at NIS was 1 147, 997 and 3 093 for the basic, intermediate and advanced levels, respectively. Teachers can also undertake professional development outside the framework of official requirements, as with the acquisition of new formal qualifications. This is sometimes achieved with the support of the respective school.

Leadership development

School leaders tend to develop their leadership skills through their individual on-the-job practical experience. Teacher education programmes do not have a school management component and completion of a leadership development programme is neither required to be eligible for a leadership position nor necessary after being appointed to the position or before taking up duties. Participation in in-service professional development is not mandatory and, in contrast with teachers, it does not lead to salary increases. Also, there are no mentoring schemes or professional learning communities for school leaders.

The National Center for Professional Development "Orleu" and its regional offices are responsible for the design and delivery of most in-service leadership development courses. The content of the courses mainly focusses on: (i) theory and methodology of management in education; (ii) status of education in Kazakhstan; (iii) methods of management in education; (iv) theory and methodology of school management; and (v) modern social and cultural aspects of school management (IAC, 2014). Some efforts have been undertaken in recent years to introduce a practical component with internships in leading schools, using more interactive and information technology, and expanding access by providing distance learning courses (IAC, 2014). In 2013, 568 school principals (9% of the total) and 2 126 school deputy-principals (12% of the total) participated in the "Orleu" professional development courses (IAC, 2014), which suggests that school leaders participate in training courses on average every 10 years of service. According to data from the Ministry, only 56% of school principals had attended advanced training courses for management staff in 2012 (IAC, 2014).

The Center of Teaching Excellence of Nazarbayev Intellectual Schools together with Nazarbayev University also offers professional development opportunities for school leaders. It has developed with the support of the University of Cambridge (United Kingdom) an innovative 9-month training programme that combines theoretical and hands-on experience. The programme lasts a total of 640 hours, which are distributed as follows: (i) introductory face-to-face training (160 hours); (ii) practical experience in a school with support of a coach (80 hours); (iii) face-to-face training to deepen and complement the knowledge gained, reflection and evaluation of school leaders (160 hours); and (iv) an internship in a school with the direct support of a coach (240 hours). The main purposes of the programme are to: (i) develop an understanding of the role and mission of the modern school leader; (ii) form key competencies in the field of leadership and governance, strategic planning, management and forecasting; (iii) equip school leaders with the skills, techniques, forms and approaches to improve their own activities and the activities of teachers and students; and (iv) develop leadership skills to foster collaboration with parents and the community. In 2013, only 250 school principals or deputies participated in this programme. In 2013, the Center also organised a five-month programme (June to October) for about 70 school leaders of the 35 schools where some innovations of the NIS are being piloted. The programme consisted of an introduction, a leadership development course abroad, some distance learning, some observation at a NIS, and a final project (NIS, 2013).

Evaluation and assessment

Student Assessment

Student performance is assessed by a wide range of instruments, ranging from external national examinations to ongoing daily formative assessment in the classroom. At the national level, sample-based external assessments of student achievement (EASA) are conducted in grade 9 since 2012, the results from which are used as key performance measures towards national goals. These are low stakes for schools, teachers and students. Summative assessment is based on teacher-based assessments (including for final examinations in certain subjects at the end of certain grades) and, for the final year of schooling, on national examinations (Unified National Test, UNT). The latter take place at the end of school education (eleventh grade) and are targeted at students who want to enter higher education (they mostly function as an entry examination for higher

education). Students can graduate from secondary education with no need to take the UNT. The results of UNT are largely used to compare performance across students, schools and regions and to assess whether student learning objectives are met at the national level. The National Testing Centre designs and administers both the EASA and the UNT while both assessments are regulated by the Committee for Control in the Field of Education and Science.

The 2012 EASA assessment was taken by 37 799 students in 653 schools, chosen by taking a 10% sample of the schools in each region. Four subjects were assessed (language of instruction, history, mathematics and chemistry). The Ministry of Education and Science published the 2012 results in the report *Analysing Results of the External Assessment of Student Achievement of ninth grade Students* (OECD, 2014b).

In 2012, 117 333 students took the UNT, which constituted 75% of the total number of school graduates. The UNT is taken in five subjects. Four are compulsory: mathematics, history, language of instruction (Kazakh or Russian), and Russian (in schools with Kazakh language of instruction) or Kazakh (in schools with Russian language of instruction). The fifth subject can be chosen from the following: physics, chemistry, biology, geography, world history, English language, German language, French language, Kazakh literature and Russian literature. The most popular optional subjects in 2012 were biology (chosen by around 33% of candidates), physics (31%) and geography (around 15%) (OECD, 2014b). The Ministry of Education and Science and NCESE (whose services, as of 2015, were integrated in IAC) publish annual reports showing student results by region and subject and over time. The reports include school performance ratings, naming the 100 schools with the highest average UNT scores (which tend to be schools for gifted children) and the 100 schools with the lowest average UNT scores (OECD, 2014b). *Oblast* and city education departments also typically publish on their websites UNT results of their *rayons* and schools, by subject. As a result, UNT results are published in school rankings at *rayon*, *oblast* and national levels.

Teacher attestation

Teachers are required to go through a teacher attestation process at least once every five years, either to access the category above or to be able to keep the current category (see Chapter 3 for a description of categories in the career structure). Teachers also have the choice to voluntarily request an attestation for a category upgrade before 5 years elapse since their previous attestation. In this case, they must pass an examination developed by the National Testing Centre, consisting of 60 multiple choice questions (20 questions on laws and regulations, 20 questions on the basics of psychology and pedagogy and 20 questions on subject-matter knowledge). The attestation process requires the teacher to submit a portfolio containing information about participation in professional development and other pedagogical activities (e.g. development of teaching methods and curricula), as well as information about the educational achievement of his or her students (e.g. winners of Olympiads and other competitions) (OECD, 2014b).

Teachers have their attestation applications reviewed by commissions formed at the school level for 2nd Category, at the *rayon* level for 1st Category and at the *oblast* level for the Highest Category (and sometimes 1st Category). At the school level, commissions are formed by high level school staff, including teachers from the highest categories. For small schools, commissions might include teachers from neighbouring schools. At all levels, commissions generally include "the most skilled education employees", representatives of teacher unions, and members of methodological and pedagogical associations.

The criteria for teacher attestation are the "Standard qualification characteristics of teachers". These apply to all teachers and are divided into three main areas: official duties, additional knowledge required, and qualification requirements. Table 4.A3.2 in Annex 4.A3 shows the "qualification requirements" to be admitted to the different teacher categories. "Official duties" relate to the main responsibilities of teachers (e.g. promoting the development of social and individual abilities in students, preparation of lesson plans, communication with parents) while "additional knowledge required" includes in-depth knowledge of the country's constitution and its laws and regulations and how these are applied in the education sector. Using criteria which are specific to the category concerned, the attestation commissions look at evidence of pedagogical experience and practice (class preparation and methodological materials), participation in further training and professional activities (conferences, pedagogical competitions, workshops), participation in experimental work and in the development of study programmes and curricula, leadership of peer groups (including teacher unions, creative teams), participation in the administration of educational institutions, as well as at information from independent evaluations of teaching quality by parents and students and at educational achievement (e.g. performance of pupils in Olympiads and in other competitions) (OECD, 2014b). The attestation process also includes an interview with the teacher and lesson observation.

Following the examination of submitted materials and the teacher interview, the attestation commission makes one of the following conclusions: (i) the teacher conforms to the category for which she or he is applying, i.e. a promotion is awarded if the teacher is applying for a category upgrade or the category is maintained for a teacher seeking to keep his or her current category; (ii) The teacher is subject to re-attestation, i.e. the teacher is given a second opportunity; or, (iii) The teacher does not conform to the category for which she or he is applying, i.e. a promotion is not awarded if the teacher is applying for a category upgrade or the category is withdrawn for a teacher seeking to keep his or her current category. Hence, theoretically, if their teacher attestation is not successful, teachers can be downgraded to a lower category, although it is unclear how often this occurs (OECD, 2014b). The teacher can also appeal the decision of the commission.

Attestation of school principal and deputies

In contrast with appraisal processes for teachers, the attestation of school leaders is still in its initial stages in Kazakhstan. The law provides for an attestation of school principals once every three years but does not stipulate any requirement for the attestation of other leaders. No official appraisal criteria have been established yet and, in practice, principals' attestation occurs during external school evaluation processes by taking into consideration students' achievement (e.g. average UNT results, results in Olympiads) and annual reports on teachers' professional development (World Bank, 2013). The results of the attestation have no impact on principals' compensation or career progression. Other school leaders are not attested for their leadership duties but might be subject to regular teacher attestation.

School Evaluation

In Kazakhstan each school has to be licensed before it can start operating and is then required to undergo an attestation (or inspection) process at least every five years. Both these processes are the responsibility of the Committee for Control in the Field of Education and Science, created in 2011, which is part of the Ministry of Education and

Science. Through these processes, the Committee oversees the quality of education in individual schools, assesses compliance with regulations and takes measures to improve the quality of educational services. The Committee has territorial branches in *oblasts* and both the cities of Almaty and Astana, which organise both the licensing and school attestation processes. The initial licensing process for a school to start operating focusses on minimum material and staff requirements such as whether the school has the required staff and adequate buildings and equipment. It involves the formation of a commission which visits the school.

The references for school attestation are the education standards as well as regulations about teaching staff, schools' infrastructure, and schools' operation (e.g. maximum class size). The school attestation report is not made public. However, the public is allowed to consult the printed copy of the report that the school receives. Also, it should be noted that there is no requirement for schools to undertake school self-evaluation as such but only as an input for school attestation. However, many schools engage in internal discussions about ways to improve their practices, involving their teaching community. The school attestation process involves, for each school in the system, a sequence of activities comprising:

● A self-evaluation report by the school: addresses the general characteristics; staff structure; number of students; instruction, pedagogical work and teaching loads; training and guidance; research laboratories; ICT and library resources; student performance; research work; and professional practice.

● A visit by an attestation commission includes the observation of teaching and learning in the classroom, the review of school administrative documents (e.g. school plans, class schedule, lesson plans), testing of students, and interviews with school agents (students, teachers, parents). Aspects which are reviewed include teaching staff (e.g. qualification requirements, hiring procedures, teaching load), pedagogical approaches, quality of teaching and learning, adequacy of student population to school capacity, infrastructure (e.g. laboratories, ICT, library) and student performance. For example, in terms of teacher qualifications and experience, primary schools should have at least 20% of teachers at the two highest career categories (30% for secondary schools). In order to assess student performance, the school attestation process includes the application of standardised tests to students in the school. These tests are designed by the National Testing Centre specifically for school attestations and are targeted at students in grades 4, 9 and 11 in a wide range of subjects. Other grades might be tested with quizzes specifically designed by subject specialists who are part of the attestation commission.

The attestation commission is typically formed by 15-16 individuals and visits schools for about a week. The chair is a staff of the Committee for Control, 4 individuals are from other regions, and the rest represent local experts (mostly teachers). The great number of members of the commission is to a great extent related to the concern of covering the different subject specialisms offered at the school. Members of commissions are paid for their services. Candidates for attestation commissions are selected from regional and urban databases which typically include teachers with extensive experience and who are involved in methodological associations. The number of members in a commission might slightly vary according to the number of teachers in the school and the variety of disciplines they teach.

● The preparation of a school attestation report together with the attestation decision (*attested* or *not-attested*). The attestation commission makes a recommendation regarding the attestation decision and the Committee for Control then validates (or not) such recommendation. A favourable attestation decision is taken if the school fully complies with education regulations and standards, including in terms of student performance (at least 70% of the tested students pass the standardised test applied by the attestation commission). A negative attestation decision leads to the suspension of the school's license. The attestation report contains a list of the violations found and sometimes identifies the liable individuals within the school. While the focus of the report is an account of the violations to the regulations, it generally also contains a range of recommendations for the improvement of school pedagogical practices. It is expected that the report is discussed among the teachers and school leaders. Often the recommendations in the report are used by the school as an opportunity to request further resources from local education authorities.

● A follow-up phase for those schools *not-attested* (whose license is suspended). Schools which are not attested are supposed to develop an action plan. A commission is formed to review whether the weaknesses and violations detected on the occasion of the original attestation process were eliminated within a specified time (typically six months). If that is the case, the school's license is re-activated. Otherwise, the school's license is revoked and the school can no longer operate. Support for improvement is expected to be provided by local education authorities (*rayons* and city departments).

In 2013, only about 54% of the 1 427 schools which underwent the attestation process received a positive decision in their original attestation process (according to data provided by the Committee for Control in the Field of Education and Science) (see Table 4.3). This figure contains great variance across the country, ranging from only 12.2% in Atyrau to 83% in Almaty city.

Table 4.3. **School attestations, 2013**

Region	Number of school attestations undertaken	Attestation decision		Proportion attested (%)
		Attested	Not attested	
Akmola	143	100	43	69.9
Aktobe	65	30	35	46.2
Almaty	138	24	114	17.4
Atyrau	41	5	36	12.2
East Kazakhstan	129	87	42	67.4
Zhambyl	86	51	35	59.3
West Kazakhstan	75	23	52	30.7
Karaganda	91	51	40	56.0
Kostanay	109	38	71	34.9
Kyzylorda	80	48	32	60.0
Mangystau	22	12	10	54.5
Pavlodar	82	60	22	73.2
North Kazakhstan	98	55	43	56.1
South Kazakhstan	191	125	66	65.4
Almaty City	47	39	8	83.0
Astana City	30	21	9	70.0
Total	**1 427**	**769**	**658**	**53.9**

Source: Data provided by the Committee for Control in the Field of Education and Science to the review team.

System Evaluation

A range of tools are used to monitor performance of the education system in relation to the State Program for Education Development 2011-20. Information on student learning outcomes is collected from sample-based external assessments of student achievement (EASA), conducted in grade 9 in four subjects (language of instruction, history, mathematics and chemistry), and from the Unified National Test (UNT) taken by students who want to enter higher education (in a variety of subjects). The monitoring system also includes a range of statistics on education based on data collected from schools on a standardised format. Also, international benchmarks of student performance provided by international student surveys such as PISA and TIMSS have been influential in driving policy development at the system level. In addition, NCESE (whose services, as of 2015, were integrated in IAC) also conducts surveys to assess societal views of education which include the collection of views and perspectives from principals, teachers, parents, students and potential employers. By contrast, there is no framework to evaluate the work of *rayons'* and *oblasts'* Departments of Education even if the monitoring of their work can be followed on the basis of student learning outcomes.

Both the Ministry of Education and Science and NCESE (as of 2015, the Information-Analytic Center) publish reports with system-level analysis. Examples are the *National Report on the State and Development of Education*, *The Results of the Monitoring Study of fifth and ninth grade Student Performance Evaluation*, *Analysing Results of the External Assessment of Student Achievement of ninth grade Students* and *Analysis of Unified National Test Results 2012*.

Collaboration with other schools and community engagement

Little collaboration exists between schools. There are no formal schemes for school leaders to engage in supporting their peers in other schools (e.g. exchanging best practices, mentoring new leaders, supporting those in low performing or isolated schools) and the concept of system leader who can not only lead his or her school but also contribute to system-wide improvement is rather incipient. There are few mechanisms to share resources between schools in order to make a more efficient use of their physical infrastructure, equipment and instructional materials, or their human resources.

Opportunities for formal community engagement in school governance are emerging as Boards of Trustees are being established and are consolidated in schools. Boards of Trustees, as a possible form of a collegiate body contributing to school management, with the participation of stakeholders from outside the school (e.g. parents, local businesses), were established in 2007 in the context of a policy seeking to decentralise decision-making within the education system and grant the school community with an opportunity to participate in school management (see also Chapter 2).

Prior to the introduction of Boards of Trustees, schools would freely find their own ways to foster collaboration with their surrounding communities. Most typically, such collaboration took the form of a Parents' Committee, elected by a general parents' meeting at the school (see Chapter 2). PISA 2012 asked school principals to indicate the proportion of students' parents who participated in various school-related activities. As shown in Figure 4.3, a greater proportion of parents in Kazakhstan seem to participate in a wide range of activities in schools relative to the OECD average.

Figure 4.3. **Perceptions of parental involvement in Kazakhstan and OECD average, 2012**
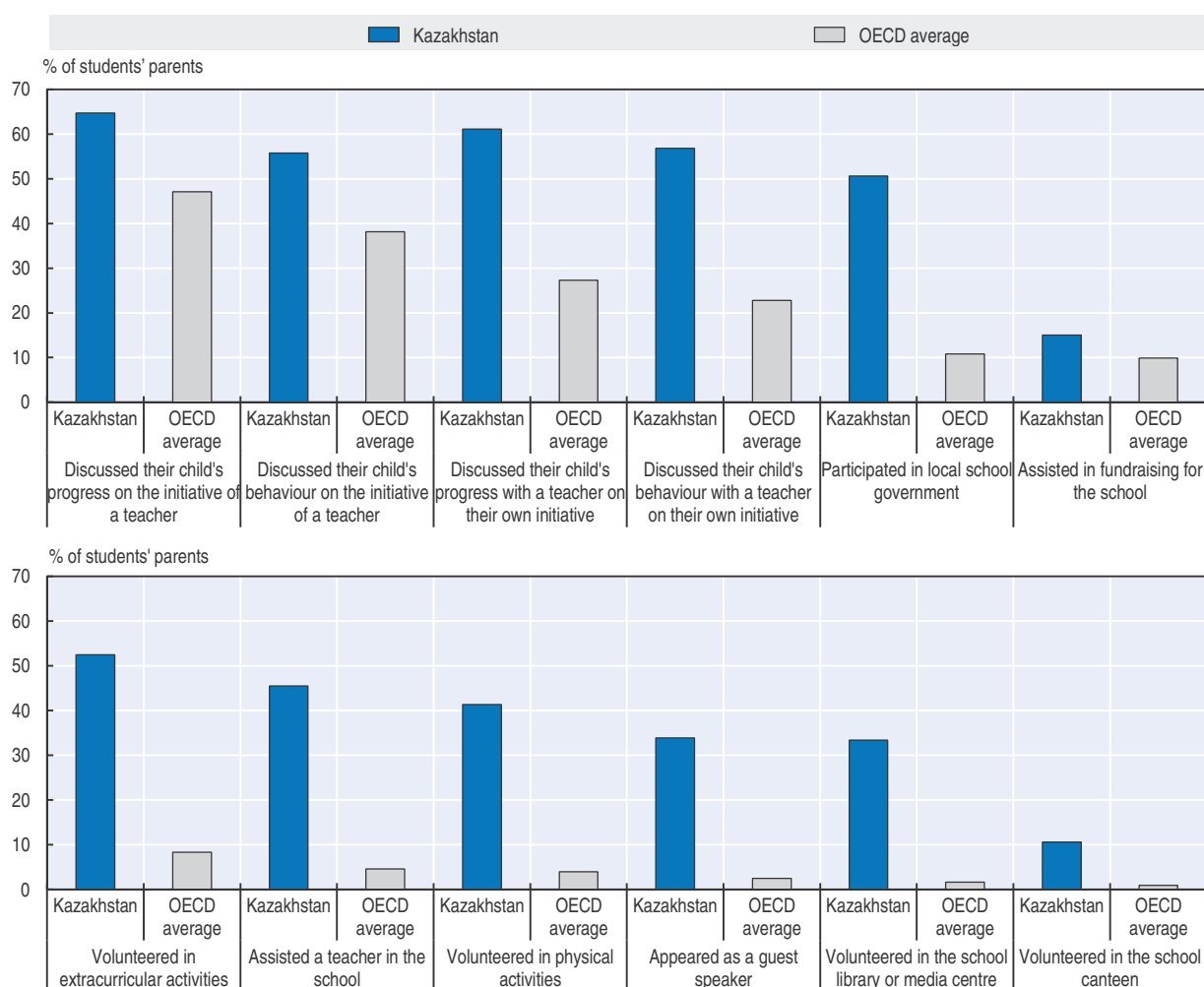
Note: This figure shows the school principals' report on the percentage of students' parents who participated in the school-related activities displayed above during the previous academic year.

Source: OECD (2013a), *PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices*, *http://dx.doi.org/10.1787/9789264201156-en*.

Strengths

A collaborative spirit prevails in schools

Teachers have opportunities to collaborate

Teachers seem to have opportunities to collaborate in schools in Kazakhstan. The frequency and intensity of school-based professional development opportunities in Kazakhstan seems to be significant. School-based teacher professional development enables the improvement of teaching practices in view of meeting the school's needs. Teachers are aware of the learning goals pursued by their colleagues and potential areas for collaboration (through joint work in methodological associations), and such joint efforts can contribute to establishing professional learning communities in schools. Teachers must develop competencies to work as a group, adding to the social asset of schools. To do so, individual courses are not enough, even when meeting institutional needs, and school-based approaches can be more effective. The experience of Finland, Singapore,

Japan and Canada shows that school-based strategies can create a positive culture in which teachers push and also pull each other into energising improvements where all the staff and therefore all students are bound to learn (Hargreaves and Fullan, 2012). Indeed, high-performing countries tend to focus on the continuous improvement of the entire teaching staff in schools rather than on the development of individual teachers. In some countries, notably China (Shanghai) and Finland, critical reflection on practices, using educational research knowledge and methodologies, takes place in higher education as well as in school classrooms, thereby creating a 'virtuous circle' of reflective practice (OECD, 2011).

School leadership responsibilities are distributed and include instructional leadership

The legal requirement to distribute leadership responsibilities among several staff lays down a foundation that could favour the development of distributed leadership in Kazakhstan. By establishing several individual formal leadership roles, norms recognise that strategic and pedagogical leadership cannot be exercised over time by one person alone. This is in line with an increasing body of research that suggests that school leadership teams are the basis for increasing leadership capacity and fostering more sustainable school improvements as opposed to the traditional leadership style based on a single leader (Pont et al., 2008; Harris, 2012). The existence of several formal positions can also pave the way towards leadership succession, which might become an issue of particular relevance in the next years in view of the age structure of Kazakh school principals.

In practice, however, the extent to which leadership is actually distributed in schools, and thus its potential to positively influence organisational outcomes and individual performance, can be questioned. Formal and informal norms restrict the ability of school principals to utilise all the available talent within schools as, for example, principals cannot decide on the number and functions of the leadership team. The extent of actual delegation of responsibilities from principals to other leaders varies between schools and depends on personal management style of each specific principal (IAC, 2014). The level of interaction and shared vision among members of school leadership teams observed by the review team suggest that a hierarchic model prevails over a flattener distributed leadership structure.

Another positive feature in Kazakhstan is the great attention placed on instructional leadership. Many of the tasks that are expected from principals in Kazakhstan are aligned with instructional leadership tasks that are associated with improvements in student performance. As shown by data from PISA 2012, according to the perceptions of Kazakh school principals, instructional leadership seems to be more widespread and frequent in Kazakh schools than on average across the OECD (see Figure 4.2). Research on school leadership practices that are successful in raising student outcomes suggests that school leaders should place greater focus on improving the core business of teaching and learning (Robinson et al., 2008; Day et al., 2009). In many high performing systems, school principals spend around 80% of their time in improving instruction and taking action to better motivate and develop the professional capacities of teachers, and their functions and incentives are focussed on instructional leadership rather than school administration (McKinsey, 2010).

Students progress smoothly through grade 9

Students are not tracked into different programmes until grade 10

The separation of students into different educational programmes does not occur until grade 10, which means that all students are exposed to the same curriculum through grade 9. While the optimal time to track students is difficult to estimate, extensive research indicates that selecting students into different tracks at an early age is detrimental to equity and does not increase the overall performance (Slavin, 1990; Hanushek and Woessmann, 2005; Van de Werfhorst and Mijs, 2010). Although students in higher-achieving "tracks" have larger learning gains, their gains are offset by the smaller learning gains of students in lower-achieving "tracks" (Schofield, 2010).

Many OECD countries have introduced comprehensive education measures, and raised the age of first tracking or postponed it to a later stage of the educational process – most commonly to the end of lower secondary education. One of the most recent reforms was undertaken in Poland, where early tracking was postponed one year, until the age of 15. The reform raised students' performance substantially, particularly for those students that would have been assigned into vocational tracks, without hindering the performance of top achievers (Wisniewski, 2007).

Policy expectations are that schools will compose classes within grade level sections that are balanced across gender, social background and ability. The same classroom composition and teacher is typically maintained during the first four grades of primary education. Multi-year teaching ("looping") provides a number of benefits for primary school students. The international literature suggests that looping provides consistency in the curriculum delivery, reduces the amount of time that teachers and students spend becoming oriented to each other, builds strong relationships among students, teachers and parents, and may improve student learning (Barger, 2013). It appears to be particularly valuable for disadvantaged students.

Grade repetition is rarely used and students have some opportunities to catch up

Students rarely repeat a year in Kazakhstan, a strategy conceived to support student learning but that has been proven largely ineffective and very costly. There are some support strategies to address the learning gaps during the school year, for example through remedial after-school activities, and opportunities to retake exams and do additional homework to catch up before the start of the following year. However, the review team found little evidence of the provision of early support to avoid that students fall behind, with personalised and intensive intervention, which very often have direct costs for schools.

The little use of grade repetition in Kazakhstan is supported by the vast body of literature that reports that the academic benefits of grade retention are slight and short-lived while the financial costs of grade repetition are large for both individuals and society (see OECD 2012a, for a brief summary). Some learning gains might accrue in the retained year as students are working on the same curriculum again but these tend to fade away in later years. Grade repetition has a long-term social and academic negative impact as it increases the likelihood of earning no qualification or only a lower secondary one. Moreover, it widens inequities because the proportion of students from disadvantaged backgrounds are more likely to fall behind and thus to repeat a year than other students. Also, students usually perceive repetition not as an enabling opportunity but as a personal

punishment and social stigma, and may be further discouraged from education. Its direct costs for school systems are very high, as these include providing an additional year of education and delaying entry to the labour market by a year. In Belgium, the Netherlands, Portugal and Spain the direct costs of grade repetition account for more than 8% of the annual expenditure on primary and secondary education (OECD, 2014a).

School facilities, equipment and learning materials are extensively used

School facilities are utilised extensively throughout the course of the day and the year in most schools. Multi-shift teaching, after-school activities, and summer camps mean that school buildings rarely stand idle. The Soviet tradition of equipping schools with large auditoria, workshops, gyms and sport fields (and occasionally swimming pools) raises the school's importance as institutions that can serve students in a variety of ways.

Information and communication technologies (ICT) are actively utilised in the teaching and learning process. The Government of Kazakhstan has embarked on an ambitious reform to equip the country's schools with modern digital resources to keep up with the educational needs of the 21st century. Through the e-learning programme schools have received computer hardware and software, interactive classroom equipment, and so forth. Curricula are being adapted to use the newly available digital resources, including multimedia manuals, exam software, encyclopaedias, and a wide range of web-based resources. Several schools visited during the course of this Review proudly displayed their interactive classrooms (e.g. smart boards) and demonstrated how the resources are used by teachers in the instructional process.

The official instructional time is provided with few disruptions and complemented with widespread after-school activities

The official amount of instructional time is provided with few disruptions

Schools have the flexibility to ensure that students receive the intended learning time, at an appropriate time of day. When students miss class for illness, they get extra classes from their teachers. Both students and teachers told the review team that students could receive make-up classes if they missed school for an excused reason such as illness. In some schools substitute teachers, typically colleagues within the same school, are available to cover teacher absenteeism. The availability, however, depends on the subject of the class as certification in the subject is required for substitution. In shift schools, principals can adjust the schedule and determine which grades attend the first, second or – in a few cases – third shift. This allows the principal to take into account the age of students. Norms require that grade 1 students attend the first shift, and generally all the primary grades attend the first shift, but the review team was told that other decisions related to the shift schedule were made at the school level.

In Kazakhstan, classes are orderly, without loss of time for student behaviour or teacher absenteeism. Principals of schools participating in TIMSS 2011 in Kazakhstan reported the lowest levels of problems with school discipline of any country participating in the study (Mullis et al., 2012). Only 10% of grade 4 students and 56 % of grade 8 students were in schools where the principal reported either "minor" or "moderate" problems, as compared with the international averages of 40% and 84%, respectively. Data from PISA 2012 also show a similar low incidence of disruptive behaviour that could reduce instructional time, which is substantially lower than the average for OECD countries (see Figure 4.4).

Figure 4.4. **Perceptions of disruptive classroom behaviour in Kazakhstan and OECD average, 2012**
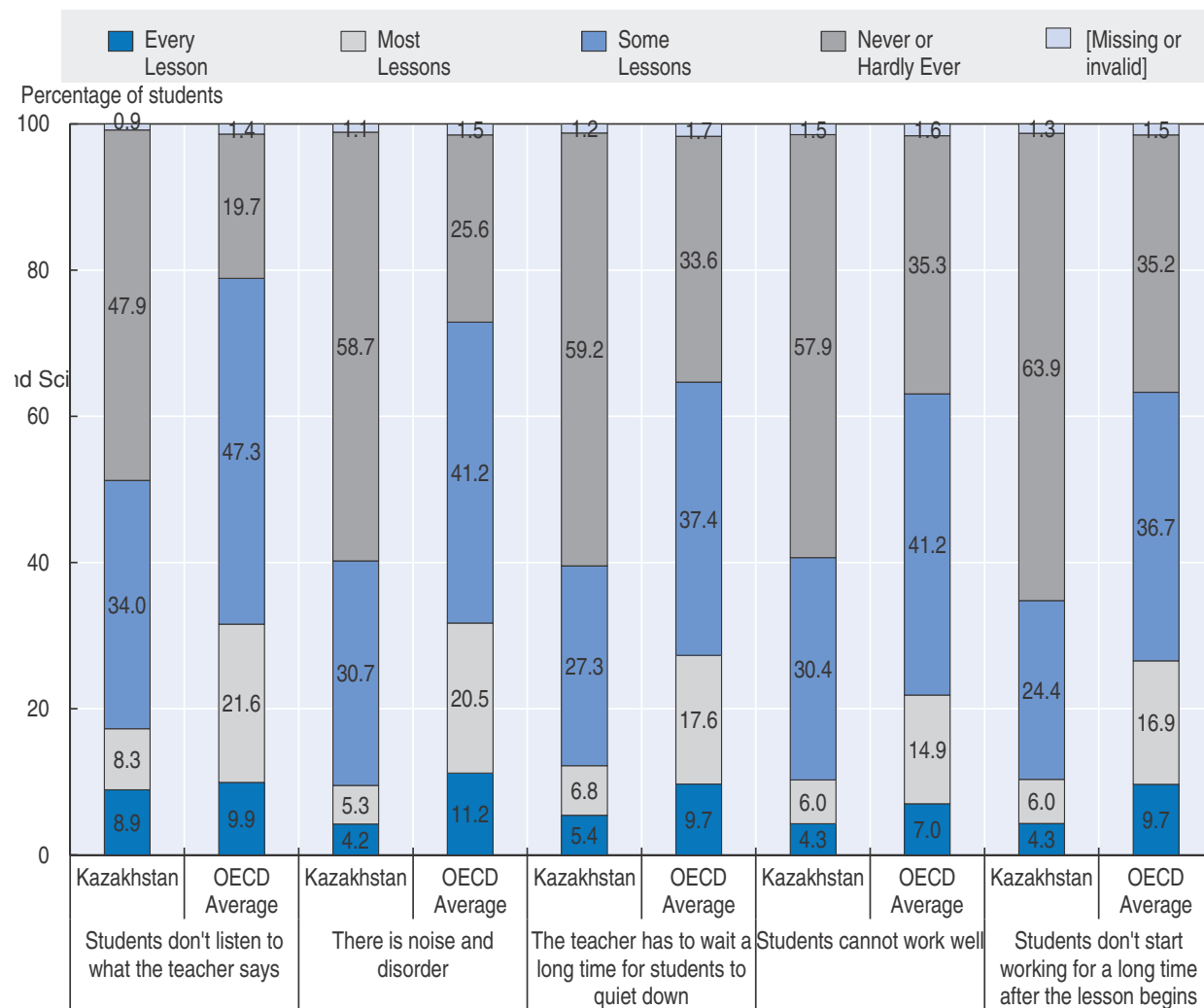
Note: This figure shows the percentage of students who reported in PISA 2012 that the phenomena displayed above "never or hardly ever" occur, occur "in some lessons", occur in "most lessons" or occur in 'every lesson', in their mathematics lessons.
*Source:* PISA 2012 Compendium for the Student Questionnaire, *www.pisa.oecd.org.*

The prevailing collaborative spirit among teachers and school leaders combined with a supporting learning environment results in a positive school climate in Kazakhstan. School climate is a somewhat elusive concept: often recognisable, but difficult to measure (Anderson, 1982). But there is widespread consensus that school climate is a strong correlate of students' attitudes and achievement (Cohen et al., 2009). Recent international studies have classified four dimensions of school climate that are positively associated with student achievement: an emphasis on academic success as indicated by rigorous curricular goals; teachers who are effective in implementing the curriculum for all students; students that desire to do well; and parental support. In particular, schools with strong community involvement and teacher collaboration promote student achievement. Two other dimensions of school climate, a disorderly environment and frequent bullying, contribute to lower student achievement (Mullis et al., 2012).

After-school programmes are widespread and available to all students

Schools and other specialised public or private institutions offer many optional after-school programmes that provide students with the opportunity to learn after school hours and to participate in a wide range of activities, based on their interests. Public schools offer these programmes without cost to students, while private organisations offer similar or different programmes and charge fees. Some programmes are compensatory while others cater to higher achieving students. Teachers may also offer tutoring services in academic areas; tutoring services are classified as individual teaching activities and are regulated by law.

Many after-school programmes focus on the mandatory academic subjects, and a much higher share of 15-year-old students in Kazakhstan attend after-school lessons in core academic subjects as compared with students in the average OECD country (see Figure 4.5). A 2012 survey of over 12 000 parents of ninth grade students in four *oblasts* of Kazakhstan found high usage of tutoring services. Over one third of parents reported that their children used tutoring services in preparing for the UNT (Unified National Test). The tutors mainly helped with academic issues in mathematics, physics and English (NCESE, 2012).

Figure 4.5. **Attendance of after-school classes of 15-year-olds, 2012**
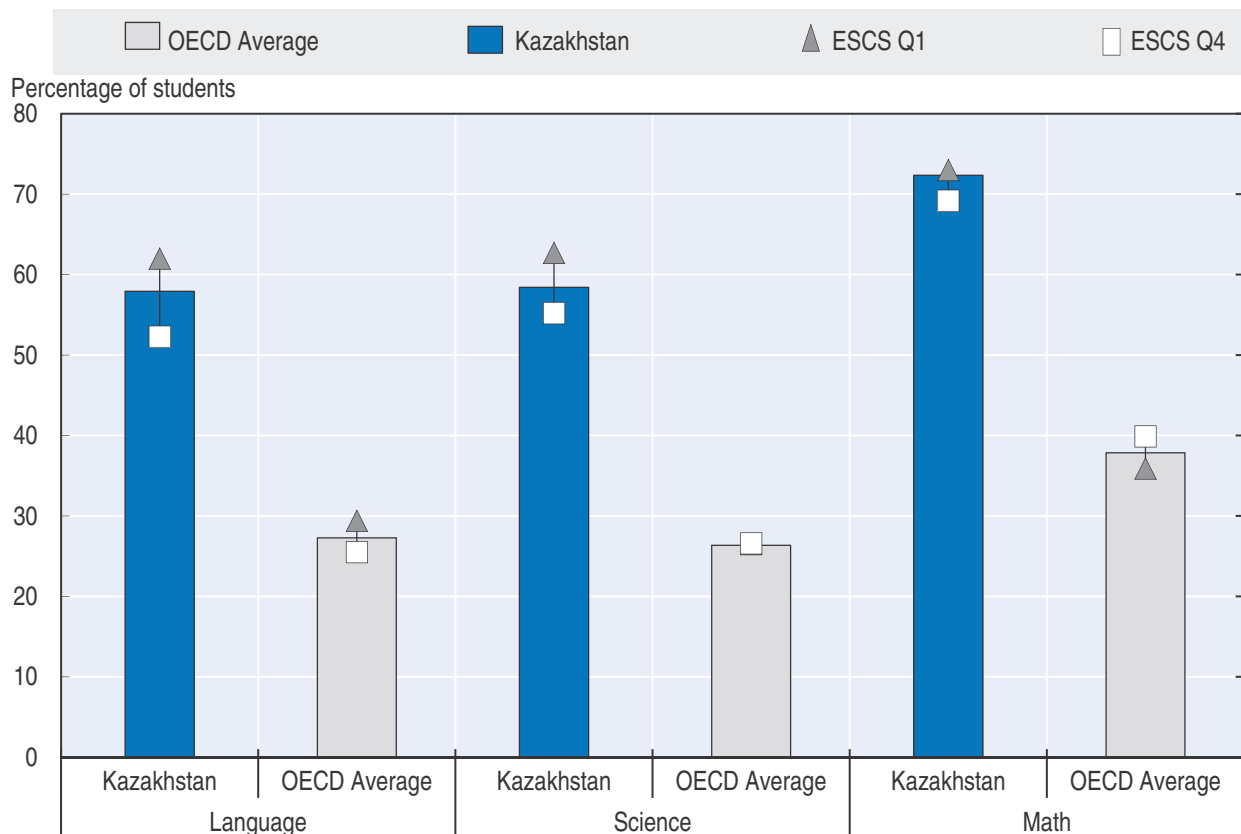
Note: This figure displays the percentage of 15-year-old students attending after-school lessons and the difference between the top and bottom quartile of the PISA index of economic, social and cultural status (ESCS).
Source: OECD (2013a), *PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices,* http://dx.doi.org/10.1787/9789264201156-en.

Disadvantaged students seem to participate in after-school programmes. The review team was told that all students had access to extended remedial education in key subjects and that this was provided free of charge to students. Self-reported evidence from 15-year-olds in PISA confirms that a similar share of students from lower socio-economic groups participates in after-school lessons, which suggests some effort to target these programmes (Figure 4.5). In spite of this, students from low socio-economic backgrounds might have more difficulty attending extracurricular classes or tutoring services that prepare for admission to elite secondary schools and higher education.

After-school lessons appear to be matched to students' individual learning needs. For example, over 90% of schools offer after-school lessons in mathematics, and 26% of these schools report that whether the lessons are enrichment or remedial depends on the prior achievement of the student. Over half of schools offer both enrichment and remedial mathematics lessons, which is comparable to the OECD average, although fewer schools concentrate on remediation – about 4% of schools as compared with about one-third of schools in OECD countries (OECD, 2013a). Students told the review team that when they had difficulty with a subject they asked their teacher for an explanation and they also could study each subject after school free of charge.

Greater attention is paid to staff, school and school system evaluation
Teachers benefit from a certification process

In Kazakhstan, teachers benefit from a clearly established career structure with four steps (see Chapter 3) associated with a teacher certification process (teacher attestation). As explained in Chapter 3, the functions accomplished by the career structure (recognition of skills and matching skills to roles in schools) convey the important message that the guiding principle for career advancement is merit and have the benefit of rewarding teachers who choose to remain in the classroom.

Teachers, as they access higher categories of the career structure, are expected to have deeper levels of knowledge, demonstrate more sophisticated and effective teaching, take on responsibility for curricular and assessment aspects of the school, assist colleagues and so on. Given the potential greater variety of roles in schools as the teacher goes up the career ladder, the career structure fosters greater career diversification. Such opportunities for diversification already exist in Kazakh schools as with management responsibilities for teachers at schools, participation in methodological associations and mentoring of beginning teachers. These are likely to have a positive motivational effect. However, the different categories in the teacher career structure are not clearly associated with given roles and responsibilities in schools.

Appropriately, access to higher categories of the career structure involves a formal certification process (teacher attestation). These processes that are linked to career development can help provide incentives for teachers to perform at their best, bring recognition to effective teachers, support professional learning, and help recognise and spread good practice more widely. Certification (including certification renewal) at certain key stages in the teacher career can also provide useful information for accountability (as certifying teachers as fit for the profession and identifying underperformance), professional development and promotion. Given the high stakes of teacher attestation, it is appropriate that elements external to the school are involved (e.g. external evaluators, especially for the higher categories), some common references exist ("standard qualification characteristics of teachers"), and several types of evidence and multiple evaluators are used.

The requirement of certification/attestation renewal has clear benefits. It provides incentives for teachers to update their knowledge and skills continuously and it potentially allows the school system to identify core areas in which teachers need to keep improving. However, it is unclear why there are no provisions for a probationary period for new teachers in the school system as a key initial step in the teaching career. Similarly, a gap in the organisation of the teaching career is the absence of a regulated systematic induction or mentoring process for teachers as they enter the school system, which could be associated with the teacher's probationary period. While mentoring programmes are in place in most schools, these vary in their quality and are not formally integrated in the organisation of the teacher's career.

Another positive aspect of the teaching career in Kazakhstan is the internal teacher appraisal which typically takes place regularly in schools. These help teachers learn about, reflect on, and improve their practice in the specific school context in which they teach. It also grants them the opportunity to identify areas for improvement. However, such internal teacher appraisal practices are not validated externally.

External school evaluation is increasingly important as a tool to ensure the quality of school services

Kazakhstan shows a clear commitment to external accountability based around school evaluation with a regular cycle of external school evaluations carried out by the Committee for Control in the Field of Education and Science. Some aspects of the approach to external school evaluation draw appropriately on international good practice. The process of external evaluation undertaken by the Committee is structured and systematic. Each stage in the process is clear and the approach builds logically. A self-evaluation report is part of the school attestation process. There is a regular 5-year inspection cycle and the data collected during these inspections are made available for consultation at the school in the form of the inspection report. Attestation commissions include experienced and recognised teachers.

 School attestation includes provision for classroom observation which is important to emphasise the importance of teaching and learning processes and to address pedagogical matters while it is seen as relatively low threat by teachers as they are not assessed individually by the attestation commission. Giving teaching and learning prominence in the evaluation process is important to send clear signals about what matters. Furthermore, the approach to external evaluation in Kazakhstan is designed to be evidence informed. School documentation is sought and analysed as a key part of evidence gathering and a sample of stakeholders is interviewed in the course of the attestation (students, teachers, parents). In addition, data on student achievement is collected through the application of specifically-designed student assessments. As a result, attestation commissions have a wide body of evidence upon which to base their judgements.

School attestation also provides some opportunities for follow-up, even if those are only granted to schools which originally receive a non-attestation decision. This is mostly the responsibility of local authorities (*rayons* and city departments) as they have the responsibility for working with such schools to ensure that an appropriate improvement action plan is developed. The Committee for Control undertakes a follow-up inspection to assess whether improvements were undertaken to address the challenges previously identified (in which case the concerned school gets its license re-activated).

There is progress towards a framework for education system evaluation

There has been progress in establishing the bases for monitoring the education system. This reflects increasing attention among policy makers to the development of instruments and analysis to assess the quality and progress of educational outcomes. This involves the collaboration of a number of players, such as the Ministry of Education and Science, the Information-Analytic Center, the National Center for Educational Statistics and Evaluation (NCESE) (as of 2015, part of IAC) and the Committee for Control in the Field of Education and Science. Education policy is giving a growing strategic role to system evaluation as an essential part of policy planning and development and there is a concern in increasing analytical capacity to analyse the available data.

The progress towards a framework for education system evaluation is reflected in the establishment of education standards as a reference for system evaluation, the establishment of an education indicators framework for data collection, the development of an integrated Education Database, the design of a sample-based national assessment for system evaluation (EASA), the development of stakeholder surveys to assess their satisfaction with the education system, the participation in international student assessments such as PISA and TIMSS, openness to external views such as with OECD policy reviews and the preparation of analytical reports with results of the education system. There have also been some efforts in publishing and disseminating information about student learning outcomes.

Challenges

There is no systematic policy to support students who are falling behind

Kazakhstan has a well-developed system to address social or economic problems that may hinder the participation of students in schools, as discussed in Chapter 3, but support to students who are falling behind is entirely left to the schools. In practice, the review team observed that schools have neither the incentives nor the resources to support students who are falling behind. The strong national emphasis on Olympiads and gifted students encourages teachers to focus on higher performing students and thereby direct less effort to lower performing students (see Chapter 3). Teachers may also hold lower expectations for the academic success of less gifted students. Although two-thirds of Kazakhstan's fourth and eighth grade students study in schools with a high emphasis on academic success, about one-third do not. In many OECD countries more than 85% of students study in schools with high expectations and emphasis on success. In addition, schools have little ability to direct additional resources to low performing or disadvantaged students, due to their strict application of norms.

Kazakhstan also does not implement standardised testing at the primary or lower secondary level (other than EASA in ninth grade), so that the information such tests could provide to help identify students who are falling behind is not available. Regular testing and feedback to teachers has been found effective in helping teachers and tutors focus on the specific areas in which students are falling behind, and consequently in boosting learning (Slavin and Madden, 2010; Fryer, 2014).

There are concerns about ability and gender grouping of students

Ability grouping

The identification and nurturing of top-performing students begins early. Although ability grouping is not officially allowed for primary grades, the review team was told how – in one larger school that had multiple classes of each grade – the school psychologist and teachers evaluated students before assigning them to the class and teacher with whom they would spend the next four years. A review of fourth grade school attestation test scores from a different school showed significant differences in achievement across three classes, which could have resulted from initial ability grouping in grade 1. Staffing of one *rayon*-level "methodological cabinet," whose mission is to work with teachers, included a methodologist for teachers working with gifted children but no methodologist for teachers working with children who are struggling with learning (IAC, 2014).

There is evidence that some schools group students within grade level by ability. Norms for schools call for a balanced distribution of students by ability across classes of the same grade and some schools that the review team visited reported not dividing students of the same grade-level into homogeneous classes or groups according to their ability. However, as described earlier, school attestation results from one school showed significant differences in scores between classes of the same grade, which could be due to ability grouping or differences in teacher quality (Table 4.4). Moreover, data from PISA 2012 suggest that a relatively high share of 15-year-old students in Kazakhstan are grouped by ability; only 2.4% of 15-year-old students attend schools where no ability grouping is used for any class and 76.7% of students attend schools where students are grouped by ability within some or all of their mathematics classes, according to school principal perceptions (OECD, 2013a). Ability grouping has been found to disadvantage lower performing children, while providing an extra advantage to higher-achieving students, thus exacerbating inequities without improving efficiency (Gamoran, 2010).

Table 4.4. **Differences in fourth grade school attestation test scores, by class**

Section	Subject	
	Mathematics	Russian
Class 4A	91.3%	95.0%
Class 4B	78.3%	82.6%
Class 4C	54.0%	54.0%

Note: Tests are administered to students by school attestation services.
Source: Observation of the review team on a school visit.

Ability grouping can be particularly harmful in "multi-year teaching" for primary grades, which may disadvantage students who are placed with a less qualified teacher in first grade. That is, if the norm is to remain with the same teacher for four years, and – for whatever reason – that teacher is a poor quality teacher, the students who remain with that teacher for four years will have been exposed to a poorer quality education than the students who are initially placed with and remain with a higher quality teacher.

Gender segregation

Gender segregation for certain subjects results in inefficient use of subject classrooms. State school education standards require that, for selected subjects taught in fifth-eleventh grades (labour studies, crafting and technology), boys and girls are divided without regard to the size of the class. In schools with only one or two classes of each grade, this gender segregation results in very low student-teacher ratios for these classes. Moreover, it limits the opportunity for students of one gender to learn skills typically learned by the other gender group. The review team was told that girls could elect to take "boys" subjects and boys could elect to take "girls'" subjects, but in practice this never happened.

Gender segregation for some subjects deprives students of equal opportunities. In lower secondary school, girls and boys attend single-gender groups for such subjects as woodworking (for boys) and sewing (for girls). This is permitted in the education norms. The review team was told that either classes were open to either boys or girls, but that no students chose non-stereotyped subjects, which resulted in single-gender classes. This practice sustains gender stereotypes about occupational choices and life preferences and deprives both boys and girls of the opportunity to develop a wider variety of skills. In most OECD countries, both boys and girls learn both types of subjects in co-educational groups. While little gender differences are observed in the performance of 15-year-olds and their educational achievement (see Chapter 1), gender segregation is likely to influence performance in the labour market by biasing professional choices, possibly towards sectors with lower earnings for female students.

There are some concerns about the management of instructional time

Multi-shift schools can hinder learning

Multi-shift teaching, which is prevalent in Kazakhstan, might reduce the official instructional time. Schools operating in a double or triple shift might face difficulties to schedule the required number of instructional hours per week, which range from 24 hours in grade 1 to 39 hours in grade 11, and limit the amount of time allocated to teaching and mastering the material. In practice many children study far less than the maximum number of hours allowed – sometimes as little as four hours per day in areas where school facilities are scarce. Research has shown that the length of instruction time is one of the factors affecting how much students learn (Gromada and Shewbridge, forthcoming).

The organisation of the school day can also influence learning. Reliance on multi-shift teaching implies that children are sometimes asked to study early in the morning or late in the evening, times which are generally associated with low alertness levels (Gromada and Shewbridge, forthcoming). In particular, the shift system for crowded schools places some primary school students at risk. Primary school students who are assigned to the second shift must attend classes from approximately 2pm until 8pm, which is inappropriately late for children ages 8-10. Norms for shift schools require primary students in grade 1 only to attend the first shift; students in all other primary grades may be assigned to a second shift.

The school calendar is not adjusted to local conditions and needs

Schools or local governments have no discretion to adjust the academic calendar in accordance with local reality. National norms regarding the school calendar – when the school year begins, holidays, or the duration of the summer break – leave little level of flexibility at the school or local level to adjust to local conditions. An example is the wide

range of climate and topographical conditions that affect the school calendar. While there are few school closures due to temperatures, which are regulated by detailed norms, a more flexible school calendar could reduce the impact of weather on school attendance.

Instructional time might be inadequately distributed

Instructional time for students in primary grades may be inadequate for students who come from disadvantaged backgrounds. Insufficient time for learning in primary school can contribute to lower levels of achievement later on. Children in Kazakhstan are expected to master two or more languages as well as to learn the basics of other subjects including mathematics and science. TIMSS 2011 and PISA 2012[1] provide information about performance and the amount of instructional time devoted to selected subjects as taught in grade 4, grade 8 and to 15-year olds. While increasing the amount of time, alone, cannot guarantee improved student learning, insufficient time spent on early learning may account for lower achievement. The comparison shows:

- Insufficient attention given to mathematics in fourth and eighth grades may contribute to lower student achievement. In comparison with fourth grade students in the highest performing countries, fourth grade students in Kazakhstan have much less opportunity to learn mathematics (140 hours of mathematics instruction per year (4.2 hours per week) as compared with the international average of 162 hours per year and 208 hours per year in top-scoring Singapore). Similarly, eighth grade students in Kazakhstan study mathematics for 117 hours per year (3.5 hours per week) which is less than the international average of 138 hours per year, and also less than the 137 hours per year in top-scoring Korea (Mullis et al., 2012).

- Insufficient attention to science in fourth grade may not prepare students for the intensity of science instruction in eighth grade. In fourth grade, students in Kazakhstan study science 57 hours per year (1.7 hours per week) as compared with the international average of 85 and 92 hours for top-scoring Korea (Martin et al., 2012). In one tri-lingual school, primary school students studied science little more than once a week, for a total of 169 lessons over four years (Figure 4.A2.1 of Annex 4.A2). In contrast, there is an over-attention to science in eighth grade which may "crowd out" opportunities for study of other subjects. According to data from TIMSS, eighth grade students in Kazakhstan study 244 hours of science per year (7.4 hours per week), more than 50% above the international average of 158 hours per year for science, and well above the 115 hours for top-scoring Singapore. This seems to reflect the study of science as separate subjects (biology, chemistry, physics and earth sciences) at this grade, which – at the country level – is not related to differences in science achievement (Martin et al., 2012).

- Insufficient attention to reading in the upper grades may also contribute to lower student achievement in reading. In grade 9, 15-year-old students report studying about the same amount of science (3.3 hours per week) as the OECD average (3.5 hours per week), somewhat fewer hours of mathematics (3 hours per week as compared with 3.6 hours per week), but significantly fewer hours of "language of instruction" (1.8 hours per week as compared with an OECD average of over 3.6 hours per week) (OECD, 2013a).

The Olympiads and the UNT draw attention away from the curriculum

Students spend significant amounts of time preparing for Olympiads and the UNT. The emphasis on high performing students means that both students and teachers allocate a considerable amount of time to preparation for competitions and tests. The

consequence, noted previously, is that little attention is paid to students who are struggling and to what would be needed to reduce the achievement gap between higher and lower status students (OECD, 2014b).

There are concerns about the frequency, significance and incentives for professional development

Professional development for teachers might not be responding to their needs

There are concerns that the current framework for professional development is not responding adequately to teachers' needs. First, there is little flexibility in the current provision. Teachers are only eligible for external-to-the-school professional development activities once every five years, for a period not exceeding four months. Hence the frequency of professional development is questionable and results from the little incentive to engage in more regular professional development.

Second, it is unclear whether adequate learning opportunities for teachers are available. Currently, it appears that many schools struggle to connect their teacher evaluation processes appropriately to professional development and improvement (see below). The regulations and guidelines regarding teacher evaluation do not provide detailed indications about how results from the teacher evaluation processes inform the supply of professional development opportunities. At the same time, the review team formed the impression that schools take little responsibility for managing whole-school strategies for professional development.

Third, incentives for individual teachers to engage in professional development seem to be increasingly related to salary increases (through access to "higher-level" training programmes designed by the NIS network) and career advancement (through the teacher attestation process). This raises issues about whether such motivations lead to genuine interest in professional learning.

School leaders receive little preparation for their roles

The little training available before and after taking up leadership duties limits the effectiveness of school leaders. School leaders might not feel ready to fulfil their tasks when taking up leadership positions. Indeed, there is evidence from school leaders across OECD countries that when taking up their posts they do not feel that they have the knowledge and skills to become instructional leaders and manage human and financial resources as most of them have a background as teachers (Pont et al., 2008). This is also the case in Kazakhstan as evidence on the age and years of service of school principals suggests that most of them were experienced teachers before taking up the position. Moreover, recruitment of school principals focuses on their educational qualifications as well as their management and teaching experience and their responsibilities have not been clearly defined in a set of standards.

There is no systematic approach to school leadership development, few opportunities exist to take up training and development needs are not taken into consideration in the design of training programmes. The participation of school principals and other leaders in in-service training courses is very low, and it is likely that participation rates in rural areas are even lower. Most training opportunities take the form of courses of short duration. Courses are disconnected from each other which might impede a progressive development of skills necessary to lead schools. Moreover, the content of the existing courses focusses

on theoretical and legal aspects that might be difficult to relate to the daily practice of school leaders. Furthermore, many of these courses fail to reflect the breadth of the education reforms undertaken in recent years, which demand schools headed by leaders rather than leaders who are able to foster new approaches to learning, innovation, communicate effectively with communities, and use modern technologies (IAC, 2014). School leaders who have been in the system the longest might face difficulties in keeping up with current practices, particularly if they do not participate in training courses. The new model of leadership development of the Center of Teaching Excellence of NIS and Nazarbayev University opens promising avenues for leadership development but its design makes the expansion to the entire leadership workforce very costly. Furthermore, there are no networks for peer learning or mentoring schemes for school leaders in the country to enable them to exchange their experiences among peers in an informal setting.

The evaluation of teachers and school leaders places insufficient focus on their improvement

Teacher evaluation

The main mechanism for teacher evaluation in Kazakhstan is the teacher attestation process which certifies teachers as competent at a given level of the career structure and, as a result, it is a process with high-stakes for teachers. It is difficult to achieve the developmental function of teacher evaluation through a high-stakes process. As explained in OECD (2013b), combining the accountability and developmental functions in a single process of teacher evaluation raises a number of challenges. When teachers are confronted with high-stakes consequences of evaluation on their career and salary, they are likely to be less inclined to reveal weak aspects of their practice and focus on their own potential for development, which in turn jeopardises the developmental function. As such, self-evaluation of teachers might be less meaningful when it is associated with a process with high stakes for teachers. While in Kazakhstan teacher evaluation processes which are internal to the school are common, they tend to serve mainly as an input for the teacher attestation process and seem to be less used formatively to identify professional development needs of teachers. Overall, the review team formed the impression that there is an over-emphasis on the accountability function of teacher evaluation, with less attention paid to genuine professional discussions about effective teaching. The perception of teacher evaluation in the education sector and society is still more strongly focused on the controlling and accountability aspects.

Another problematic aspect is the use of raw student achievement data (results of standardised assessments such as the UNT, student prizes at Olympiads and other competitions) to evaluate individual teachers. However, UNT results or results in Olympiads carry much more than the impact of the evaluated teacher and also reflect, for instance, the impact of the student's family, the student's previous learning or the resources of the school (OECD, 2014b). Clearly, this puts certain teachers – such as those in more advantaged schools – at an advantage *vis-à-vis* other teachers in terms of receiving a positive evaluation. In addition, the use of certain measures of student performance to evaluate individual teachers can lead to strategic responses on the part of teachers and schools such as: (i) teachers focussing only on the learning outcomes that will be assessed in UNT or in assessments carried out at Olympiads rather than the full range of competencies of the curriculum ("teaching to the test" and "narrowing of the curriculum"); (ii) teachers ignoring the important cross-curricular learning outcomes; (iii) time diverted

from regular curriculum for special preparation of the assessments; (iv) negative effects on teacher-based assessments and student engagement in rich curriculum tasks through which teachers can genuinely understand student learning (see Morris, 2011, and Rosenkvist, 2010, for a detailed discussion).

Furthermore, the review team also formed the view that the provision of professional development does not appear systematically linked to teacher evaluation. The identification of professional development needs is not a requirement of established teacher evaluation practices. Teacher attestation does not result in a systematic professional development plan for each teacher evaluated. Similarly, even if practices differ across schools, in most cases teacher evaluation processes internal to the school do not have as their primary objective the establishment of a professional development plan for each teacher in the school. Without a clear link to professional development opportunities, the evaluation process is not sufficient to improve teacher performance and, as a result, often becomes a meaningless exercise that encounters mistrust – or at best apathy – on the part of teachers being evaluated (Danielson, 2001; Milanowski and Kimball, 2003; Margo et al., 2008). Similarly, the lack of teaching standards can also hamper the consistency of internal teacher evaluation processes across schools (raising issues of fairness across schools) and the inability of the system to assure the quality of such processes (see also Chapter 3).

Incipient school leadership appraisal

The school leadership appraisal system is still very incipient. A legal provision for an appraisal of the performance of the school principal exists but no official criteria or guidelines have been defined yet. This means that the appraisal performed is likely to vary widely across the country and thus that school principals are not hold accountable to the same standards. Some of the measures that are often considered (e.g. students' achievement, UNT results, teachers' professional development, medals in Olympiads) provide little information about the whole spectrum of responsibilities of a school principal. Moreover, the appraisal seems to be designed as a compliance check rather than an exercise to further develop the leadership potential of principals as there are no links to professional development opportunities or career progression. Instead, a negative assessment can lead to the dismissal of the school principal. School deputies are not appraised for their leadership roles but for their teaching duties. Lack of appraisal of school principals is particularly worrisome in Kazakhstan, where the majority of school principals have been in the position for more than ten years.

School evaluation is a heavy process with a dominant accountability function

A challenge for Kazakhstan is that, currently, external school evaluation by the Committee for Control in the Field of Education and Science is predominantly an assessment of how legal requirements are met, or how stipulations in the education standards are being fulfilled. School evaluation tends to emphasise compliance with legislation rather than the promotion of school improvement. It is thus compliance rather than improvement driven and this reflects the specific role ascribed to the Committee for Control in evaluating schools outlined in the education legislation. Follow-up to school attestations is only undertaken with "weaker" schools which are not granted the attestation in their original evaluation (in a process of re-attestation which takes place after the school is given a few months to improve its practices). There is not enough focus

on strategies for promoting improvements in the quality of teaching and learning and better outcomes for students including better progress and attainment for those schools that need it the most. The review team formed the view that the reports from school attestations are very limited in the recommendations they provide for the improvement of pedagogical practices. Most of the evaluative part of the report is devoted to the identification of the violations to the regulations. As a result, there is not enough guidance from the Committee for Control about what will lead to school improvement. There also seems to be an uneven capacity of schools to use the results of school attestation. Furthermore, little attention is paid to identifying and disseminating best practice in teaching, which could be used as examples to support improvement of teaching in lower performing schools.

The range of functions allocated to the Committee for Control underlines the tension between achieving both accountability and improvement. Indeed, it is responsible for monitoring of violations of legal and normative rules, and in this regard has already achieved remarkable successes. However, it is also responsible for methodological support to schools, to help them overcome their problems and improve pedagogical practices. These two functions are however to some extent incompatible. When the attestation commissions come to the school to check the adherence to norms and legal rules, the school principal will assume a defensive position, because any identified violations will indicate his or her failings. However when inspectors from the Committee for Control come to assess pedagogical processes in the school in view of helping it improve, the principal should be more open and cooperative, revealing the school's problems to outside experts and seeking expert advice. In practice, the verification function far outweighs the support function.

The current school attestation model also presents considerable inefficiencies: it draws lots of resources and does not yield all its potential benefits. Schools prepare a self-evaluation report that could be used as an opportunity for self-reflection rather than an administrative procedural task. The attestation commissions are composed by a large group with specialised knowledge. Typically commissions have 15-16 members and spend about a week in the school and their size does not vary according to the school's size (except in pre-primary education). In countries with more mature school evaluation systems, commissions are much more limited in size (5-6 members) as inspectors cover only the main subjects in terms of specialisms and more attention is given to pedagogy and the overall development of the school (OECD, 2013b). The attestation commission also obtains a wealth of information. It interviews and surveys a range of school agents, assesses student performance and observes classes. Clearly, it is inefficient that such rich information collected with such level of resources is not used to provide better guidance for school improvement. This process does not even lead the school to prepare a plan for its own development as a result of the attestation process. It is also unclear why the attestation report is not published electronically if the consultation of the printed copy is possible at the school level. In addition, there is little evidence that current research on effective teaching, school effectiveness and improvement is used to inform the attestation criteria or to provide guidance for teachers and schools. References for school attestation remain limited as there is no description of what a good school is.

Another problematic aspect is that school self-evaluation has not been recognised as a key instrument for school improvement. Its penetration across the school system remains at an early stage of development. It appears to the review team that schools have

only a limited understanding of the contribution which self-evaluation can and should make to improving practice and no clear models have emerged generally. There seems to be limited capacity amongst school staff and principals to engage in self-evaluation and ultimately school self-evaluation seems to have little prominence among school practices.

Also, the use of UNT results for comparing quality of education across schools and regions is problematic. A difficulty concerns the comparison of student outcomes across schools on the basis of raw UNT results. The average results of the UNT at the school level are publicly disclosed with no account for the socio-economic context of each school (or the characteristics of schools' student population). The same happens at the *rayon* and *oblast* level. This can considerably distort considerations about the educational performance of each school, *rayon* or *oblast* as average results do not reflect the value added by schools to student results or the result of policy interventions at the *rayon* and *oblast* level. Comparisons between schools, *rayons* and *oblasts* are of little utility if they are not conducted on a "like with like" basis.

The dangers of using raw UNT-based league table rankings to compare the performance of schools, *rayons* and *oblasts* (and therefore making UNT results "high stakes" not only for students but also for schools, *rayons* and *oblasts*) are wide-ranging and should be recognised and avoided. These result in teachers and schools adopting practices that maximise the "result" for their class/school, such as teachers focussing only on the learning outcomes that will be assessed in the UNT rather than the full range of competencies of the curriculum ("teaching to the test") (OECD, 2013b).

School facilities are underutilised in some areas and with little access granted to the community

In areas with declining student rolls, school facilities that were built for a larger student population are not being used to their full capacity and require high maintenance costs. These school buildings are typically immense education facilities following the standard Soviet design, often with capacity for 640 students, but serve student populations of less than half of their design. Low fertility rates and migration (both internal and abroad) have taken a toll in student enrolments, particularly in the north of the country, with no expectation that populations in these areas will rebound to their Soviet-era highs. Yet these facilities remain and require large amounts of public investment for their maintenance, often in the form of heating costs (since most such buildings can only be heated in full) and maintenance staff (since the number of certain categories of staff is dictated in the norms by the surface area of the building).

Also, school infrastructure seems underutilised for broader communal use and the potential scope for revenues-raising by schools or local authorities remains largely untapped. Few schools in Kazakhstan open their facilities to the use of the community, with or without a fee, outside of regular school hours. The majority of schools visited for the purpose of this Review reported virtually no revenue-generating activity taking place from the use of school facilities. Several categories of fee based services are allowed by the Law on Education, yet school leaders appear poorly informed about which activities are permitted and how to go about collecting fees for such services. For example, renting out school gyms and auditoria for community events were among the most common potential uses that school principals suggested to the review team; but few of the visited schools reported doing this, and when they did it was almost always done free of charge.

Teacher abilities to use available technologies in the educational process vary considerably. According to official statistics, only 9% of teachers have passed training courses on the use of ICT in the learning process.[2] Yet modern technologies are being rolled out to schools at a rapid pace. Whether teacher training on the effective use of new technologies in the learning process can keep up with their provision will, in large part, determine whether these technologies provide value for money in achieving the desired education results. Furthermore, uneven provision of ICT equipment to schools across different parts of Kazakhstan presents another obstacle to the effective and equitable use of these technologies in the classroom.

There is limited collaboration between schools

Overall, the review team formed the impression that, in general, there is little collaboration across schools. A greater scope for collaboration among schools also exists in the current scheme to support small-class schools through resource centres (see Chapter 3). This means that only a few of the more highly skilled teachers in one school have an opportunity to help other teachers in a different school, particularly for primary grades. Even when "sending school" teachers have the opportunity to visit "resource centre" schools, they typically learn only through classroom observations of more skilled teachers, rather than through a discussion of teaching practices.

Policy recommendations

Provide structured, regular and meaningful opportunities for professional development for teachers and school leaders

Make professional development a more regular practice for teachers

There is a clear need for professional development to become a more regular practice among teachers in Kazakhstan, with a greater diversity of activities, led by school development plans and with a supply which reflects teachers' developmental needs. There must be a recognised and explicitly stated norm that recognises the great complexity of good teaching, and insists, therefore, on the professional obligation of every teacher to be engaged in a career-long quest of improved practice. Authentic professional development requires a culture of professional inquiry (OECD, 2013b). Hence, the motivation for teachers to engage in professional development needs to go beyond potential better salary prospects. This is likely to require providing teachers with more frequent time release and financial support for professional development than is currently the case. It is important that the professional development system benefits all teachers, not only those who are already high-performing as might be the case with the "higher-level" training programmes designed by the NIS network. As proposed in OECD (2014b), the latter should be made available at a larger scale to generate improvements at all levels of the system and in all schools.

The concept of professional development needs to be broader than the attendance of courses, workshops or conferences. Effective professional development is ongoing, includes training, practice and feedback, and provides adequate time and follow-up support. Successful programmes involve teachers in learning activities that are similar to ones they will use with their students (OECD, 2005). In this context, school-based professional development activities are particularly important.

Teacher professional development also needs to be associated with school development if the improvement of teaching practices is to meet the school's needs. To be most effective, professional development programmes should be coordinated at the school level, so that teachers are aware of the learning goals pursued by their colleagues and potential areas for collaboration. Such joint efforts can contribute to establishing learning communities. In this spirit, schools could be provided with funds to be specifically devoted to teacher professional development. Also, new trends in professional development promote collective and collaborative learning through the formation of *networks of teachers*, and *communities of practice*. Teacher networks generate other knowledge and alter the traditional relationship between knowledge and hierarchy since they propose horizontal forms of training. Communities of practice are an opportunity for teachers to make their teaching more effective, to analyse the socio-cultural contexts of contemporary schooling and seek answers to problems they face in the classroom.

It is also important that the available supply of professional development activities fits identified teacher professional needs. This is why it is crucial to use the results of teacher evaluation processes to inform professional development needs, both at the individual and group levels. For example, if feedback to teachers is provided in relation to the criteria outlined in the teaching standards to be created (see Chapter 3), then professional development activities could be organised around those criteria and be managed locally. Areas where professional development is likely to be needed in Kazakhstan are the use of ICT, for instance training on the effective use of smart boards, and multi-grade teaching which is often required in small-class schools.

Further invest in the preparation of school leaders

There is a need to design and implement a systemic approach to the development of school leaders. This will continuously prepare school leaders for their roles and their ability to lead their schools in accordance with policy reforms. Strengthening the school leadership workforce in Kazakhstan is key to improve school performance. School leaders play a key role in improving school outcomes by influencing the motivation and skills of teachers, as well as the environment and climate in which they work. Investments in school leaders can have a multiplier effect in schools and the whole system and be a particularly efficient investment given the more limited size of the school leadership workforce. A first step for Kazakhstan to consider is to reorganise and clarify the roles of school leadership in schools (see Chapter 3) and, once the school leadership workforce is rationalised, investing in developing their leadership potential.

The state should carry out a diagnosis of the skills of current leaders in order to then inform a strategy of initial and continuous professional development for current and future leaders. Research on the effectiveness of managerial development programmes shows that the analysis of needs is essential to ensure that the right development is offered to the right leaders (Collins and Holton, 2004). The few programmes for leadership development currently available should be reviewed and, on the basis of the results, a systematic approach to leadership development could be implemented. Ideally leadership development would start at teacher level and continue for principal candidates and include induction for first-year principals. Pre-service training can facilitate the selection of candidates and provide a strong base on which to build upon (Pont, Nusche and Moorman, 2008). In Scotland, school leaders can opt for a Postgraduate Programme in Educational Leadership and Management (Scottish Qualification for Headship) or for a

more flexible and practice-based programme (Flexible Route to Headship) which has the creation of a portfolio, a 360 degree appraisal and meetings with a coach as its central features (Taipale, 2012).

Several studies have aimed at characterising "effective" leadership development programmes (Darling-Hammond et al., 2007; Davis et al., 2005; Day et al., 2009). Successful programmes combine common courses to all education leaders with others specific to their positions. Joint courses facilitate the development of a common language within which to discuss quality. The coursework should focus on how to solve practical problems rather than on legal aspects. Indeed, the inclusion of practical field experience in initial training is very important as it allows establishing linkages between the theoretical content learned in the coursework, and the practical problems they will be facing in schools. In addition, courses should be contextualised to the characteristics of schools (e.g. size, level of education) as well as their social, economic and cultural realities.

Similarly, the creation of mentoring schemes and professional communities could also be beneficial to strengthen leadership skills and facilitate spread best practice. Some of the reported benefits of mentoring programmes include increased self-confidence, decreased feeling of isolation, and improved job satisfaction and retention (Weinstein and Hernández, forthcoming). Ideally coaches should have experience and have demonstrated success in schools with the same characteristics as the schools in which the new school leader is operating (Morgan and Hawkins, 2004). Also, networks for peer learning could be beneficial to systematically share reflections about the leaders' experience and exchange of successful work practices (see Box 4.1).

Box 4.1. Examples of leadership development programmes in Australia and Singapore

In **Australia**, it is common for novice principals of small schools to learn "on the job". This learning covers formal and informal forms and configurations, in particular the use of mentors and cluster arrangements which link teachers and principals across schools. An increasing number of education systems in Australia have put in place various programmes that seek to address the needs and contextual issues of small schools and their leaders, e.g. in addition to a suite of leadership programmes available to all school principals. These programmes target key groups (e.g. those newly appointed to leadership roles) and issues (e.g. teaching and learning) through a variety of modes of learning (e.g. coaching, invited online discussion groups). A conclusion from the research to date on school leadership in small schools is that leading a small school is no straightforward matter: they are not miniature versions of large schools. Scale, cost, reach and the 'timeliness' of programmes are perennial tensions as are the access, time and cost constraints for those whom these programmes seek to support.

In **Singapore**, mentoring has historically been used as a key strategy in the training of school leaders. The main component of the Leaders in Education Programme (LEP) initial training is the assigning of each aspiring principal to a mentor principal. Additionally, since 2008, the Academy of Principals (APS) – in collaboration with the Ministry – provides the *Mentoring Scheme* induction programme to all recently appointed principals. In this programme, new principals are supported by experienced counterparts throughout their entire first year in the position. The mentoring-based initiatives in the country have undergone a change in focus from one based on the transference of abilities from a senior to a junior professional to one mainly focused on the mutual benefits of both parties. The

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> **Box 4.1. Examples of leadership development programmes in Australia and Singapore** *(cont.)*
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> mentoring initiatives for school principals in the country are shaped by a leadership development paradigm that has been organised around 3 interrelated dimensions: lead (identification and selection), learn (training and development), and leverage (systemic support). The latter dimension has been defined as the provision of opportunities for school system stakeholders in leadership positions (superintendents or principals) to learn from each other, including access to good role models, providing a support structure for good leadership and orientation on best leadership practices. This focus on systemic leadership in the country has been maintained also by other complementary efforts from the Ministry, including the recruitment of retired principals to hold offices within the institution and the installation of networks or clusters among schools.
>
> *Sources:* Adapted from Dinham et al. (2011) "Breakthroughs in school leadership development in Australia", *School Leadership and Management*, Vol. 31, No. 2, pp. 139-154; and Weinstein, J. and M. Hernández (forthcoming), "Mentoring and networks among school principals: evidence and policy orientations for strengthening peer learning", *OECD Education Working Papers*, OECD Publishing, Paris.

Ensure that students with learning difficulties are supported

Encourage schools to identify and support students early-on

A greater focus on underperformance is key to raise learning outcomes. Ensuring that schools provide their students with adequate and timely support is essential to enable struggling students not only to stay at school but to get the most of their schooling years. Schools should be encouraged to use early warning systems to identify students at risk and support them as early as possible. Timeliness matters because later interventions are less cost-effective. Recent rigorous research from the United States demonstrates the efficacy of introducing five "best practices" of public charter schools into low performing public primary and lower secondary schools (Fryer, 2014). The five practices were: (i) increased instructional time through lengthening the school day and school year; (ii) better teachers and administrators; (iii) high-dose tutoring in very small groups; (iv) frequent use of data from monthly classroom assessments to inform instruction; and (v) a culture of high expectations. After three years of programme implementation, students' scores on standardised tests of mathematics increased by 21% of a standard deviation and the gap between low performers and high performers diminished significantly. Moreover, the most costly aspect of the programme – tutoring for students – was estimated to have a rate of return of approximately 14%, significantly above the 10% typically used in education, and – for secondary students – the impact was a stunning gain of 60% of a standard deviation in mathematics. Most of the five "best practices" could be adopted in Kazakhstan and could significantly boost the performance of poorly performing students.

Design a systemic policy to support students

Systemic support is cornerstone for the improvement of low performing or disadvantaged schools. As explained in Chapter 3, the new per student funding model should take into account differences between schools and differences among students within schools when determining the amount of resources the school should receive. In addition, specific strategies should be designed to support improvement in the lowest performing schools. Successful strategies in Ontario (Canada), Shanghai (China), the United States, and Uruguay are described in Box 4.2.

Box 4.2. **Systematic support to schools in the United States, Ontario (Canada), Shanghai (China) and Uruguay**

In the **United States**, the Success for All is a school-wide programme for students in pre-primary education through sixth grade that organises resources so that virtually every student acquires basic reading skills and does not fall behind. The programme was evaluated in the United States with a large-scale, national randomised control trial and was found to dramatically boost learning and close the achievement gap between advantaged and disadvantaged students; on average, students in the Success for All schools outperformed about 64% of comparable students in control schools. The main elements of the programme are: (i) a school-wide instructional process involving cooperative learning, direct instruction, practice, assessment and feedback; (ii) a school-wide curriculum including full-day pre-primary education and specific reading activities appropriate for each grade, including a requirement for students to read books of their own choice for twenty minutes at home each evening; (iii) tutors who are specially trained and certified teachers who work for 20 minutes daily, one-to-one, with any students who are failing to keep up with their classmates in reading; (iv) quarterly assessments and regrouping of students for reading to maintain reading groups of different ages but reading at the same level; (v) a solution team that works in each school to help support families and increase parent involvement; (vi) a facilitator that works with teachers as an on-site coach to help teachers implement the reading programme, manage the quarterly assessment and promote teacher communication to make certain that every child is making adequate progress.

In **Ontario (Canada)**, the Focused Intervention Program (OFIP, since 2006/07) provides targeted support to primary schools that have "experienced particular difficulties in achieving continuous improvement", measured through results on provincial assessments of reading, writing, and mathematics (grades 3 and 6). OFIP funds are used for professional development, additional student and professional learning resources, literacy and numeracy coaches, and teacher release time for collaboration and additional training. In 2006/07, schools qualified for OFIP support if less than 34% of students reached provincial standards in grade 3 reading. In addition, since 2009/10, resources from the OFIP programme were extended to over 1 100 schools in which less than 75% of students met provincial standards in the grades 3 and 6 assessments. From 2002/03 to 2010/11, the number of schools with fewer than 34% of students achieving at provincial standard in grade 3 reading was reduced by two thirds (from 19% to 6%), showing significant success in reducing the number of primary schools in which students fail.

In spite of the considerable social and economic inequalities, **Shanghai (China)** has managed to obtain high average scores and low variability in school performance in PISA with efforts to improve the school system by converting "weaker schools" into stronger schools. Measures included: (i) systematically upgrading the infrastructure of all schools to similar levels; (ii) establishing a system of financial transfer payments to schools serving disadvantaged students and transferring high-performing teachers from advantaged to disadvantaged schools, either temporarily or permanently; (iii) pairing high-performing districts and schools with low-performing districts and schools, where the authorities in each exchange discuss their educational development plans with each other, work together to deal with problems and share their curricula, teaching materials and good practices; and (iv) commissioning "strong" public schools to take over the administration of "weak" ones and sending a team of experienced teachers to lead in teaching. These arrangements not only benefit weak schools but also strong schools, for example providing the latter with more opportunities to promote their teachers (OECD, 2011).

> **Box 4.2. Systematic support to schools in the United States, Ontario (Canada), Shanghai (China) and Uruguay** (cont.)
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> **Uruguay** has managed to improve learning outcomes rapidly in recent years. Its quality improvement efforts have been informed by sample-based assessments aimed at strengthening pedagogical management in schools. By combining the assessments with cluster-based teacher training and support, spread over the whole school year, education authorities have turned information into policy practice. Evidence suggests that learning outcomes improved in certain grades by 30% over six years. Special measures have been taken to improve the functioning of weaker schools. Important moves to redress learning disparities have included targeting financial resources primarily on the basis of poverty rather than test results and using test results to provide targeted support to teachers in weaker schools and districts.
>
> *Sources:* Slavin, R. E., and N. A. Madden (2010). "Success for All: Prevention and early intervention in school-wide reform", in Meece J. and J. Eccles (Eds.), *Handbook of research on schools, schooling, and human development, Routledge*, New York; OECD (2011), *Lessons from PISA for the United States, http://dx.doi.org/10.1787/9789264096660-en*; UNESCO (2008), EFA Global Monitoring Report 2009: Overcoming inequality: why governance matters, Chapter 3, Unesco, Paris, pp. 145-170.

Raise student expectations

Greater attention should be placed to ensure that students are not grouped by ability. This might require reinforcing the current norms on student grouping. By comparison, the use of ability groups within heterogeneous-ability classrooms allows teachers to adjust their instruction to student needs, and has been found to be beneficial under some conditions (Slavin, 1987).

In addition, the state could consider expanding mentoring and career guidance services in order to build student confidence and encourage students to aim higher. Lack of mentoring and career guidance means that students might be confined with their own personal experiences and life expectations. As resources are limited, priority should be given to disadvantaged and at-risk students as research shows that it can have the greatest impact on them (OECD, 2012). Considering the size and recognition of the higher education sector in Kazakhstan, one option that the state could consider is to involve higher education institutions in activities to raise the expectations of disadvantaged students. For example, in Australia, university staff and students of Victoria University participate in activities to raise the education expectations of low income and minority school students.

Limit gender segregation

There is a need to revise state standards for gender-segregated classes in grades 5-11. Although traditionally labour-related classes have been gender segregated, most OECD countries no longer follow this practice. Both boys and girls have the opportunity to learn traditionally stereotyped skills and a variety of approaches have been identified to encourage boys and girls to enrol in non-stereotyped classes (Lufkin, 2007).

Review the use of time in schools

Sustain the efforts to reduce the number of multi-shift schools

Kazakhstan should sustain the efforts to remove three-shift schools and explore ways to minimise the impact of double-shift schools on younger students. In shift schools, all primary grades should be taught during the first shift, which would have the result of

benefitting both the younger students and the older students whose learning is enhanced by starting school later in the day. While multi-shift schooling can facilitate access to education when rapid demographic changes stress existing facilities or construction of new schools is difficult, it has a negative impact on quality of learning and Kazakhstan should envisage full removal of multiple-shift schools in the long term.

Review instructional time

There is a need to adjust the norms for instructional hours to be more in line with OECD averages for official instructional time, particularly for students in grades 1-4. Having a relatively short school day, in terms of hours of instruction, may place children, particularly those from disadvantaged backgrounds and those who may be struggling, at risk of failure. Lengthening the school day has been found to benefit learners. For example, in the United States, a large longitudinal study compared reading and mathematics learning outcomes for children who attended "full-day" kindergartens (31.5 hours per week) with those who attended "half-day" kindergartens (15.8 hours per week). The researchers found that children who had attended the "full-day" programme learned more than those who had attended the "half-day" programme, and that the learning advantage persisted through grade 3 for students whose home language was not English (Lee et al., 2005; Walston et al., 2005). Teachers reported spending about 50% more instructional time on reading and mathematics, and also on activities to broaden the children's social and other academic experiences. In addition, increasing instructional time by lengthening the school day, adding Saturday classes, and shortening breaks between classes was one element of a package of interventions that significantly boosted math performance of low performing schools (Fryer, 2014).

Schools could be encouraged to explore different and additional ways of organising the learning time in the school. In addition, in some cases schools' learning time can be organised differently, changing the number of hours per day and/or days per week. Different learning time options can include the organisation of after-school and holiday programmes, study support or breakfast clubs (Mahoney et al., 2005; MacBeath et al., 2005). The participation of disadvantaged children should be particularly encouraged as, while they are the ones who can benefit the most, they are typically less likely to participate due to several reasons including costs, access, and limited knowledge on how to participate (Horgan, 2009).

Encourage greater collaboration between schools

Greater collaboration between schools could facilitate a more effective utilisation of resources in Kazakhstan. School leaders, for instance, could be encouraged to take a more active role in collaborating with other schools. Also, schools should be encouraged and given incentives to explore ways to make greater use of their existing school facilities and equipment. Despite few legal prohibitions, school leaders are either unwilling or unable to maximise the use of their facilities for communal use. As an added benefit, scope exists for increasing the revenue base of schools and local authorities through the provision of fee-based access to educational facilities after hours. Such revenue-generating activities should be carefully monitored and all funds raised should be recorded in the official budgets of the respective budget institutions. School leaders and local executive bodies should have a clear understanding of which activities should be allowed to be conducted within educational facilities and to which budget the fees from such activities should flow. Table 4.5 provides some examples of the wide variety of approaches to collaboration between schools in OECD countries.

Table 4.5. **Selected approaches to school collaboration in OECD countries**

	Type of school collaboration
Belgium (Fl.)	School communities have been created as voluntary collaborative partnerships between schools. They aim to have common staffing, ICT and welfare resources management.
Denmark	Co-operation in post-compulsory education has been promoted by way of the creation of administrative groups that can be set up locally or regionally between self-governing institutions to optimise their joint resources.
England (United Kingdom)	A variety of approaches to co-operation are stimulated by the government – federations of schools, national leaders of education, school improvement partners, etc.
Finland	2003 legislative reform has enhanced school co-operation aiming to ensure integrity of students' study paths.
France	"School basins" have been implemented to ensure collaborative partnerships between schools to work together in student orientation, educational coherence between different types of schools, common management of shared material and human resources.
Hungary	Micro-regional partnerships based on economic and professional rationalisation were created in 2004 and have resulted in the spreading of common school maintenance in almost all Hungarian micro regions. These networks for co-operation are the scenes of professional and organisational learning in a way that can function as new forms of education governance and efficient frames of innovation.
Korea	Small schools cooperate to overcome problems of size in teacher exchange, curriculum organisation, joint development activities and integrated use of facilities.
Netherlands	In primary education, "upper management" takes management responsibility for several schools. About 80% of the primary school boards have an upper school management bureau for central management, policy staff and support staff.
New Zealand	School clusters based around geographical communities and communities of interest have been facilitated.
Northern Ireland (United Kingdom)	Post-primary schools share provision of courses with other schools and further education colleges. "School Collaboration Programme" focuses on school co-operation for increased curricular access on the local level. "Specialist Schools" model requires post-primary specialist schools to partner with primary schools and at least one other post-primary school.
Norway	Tendency to merge several schools to form an administrative unit governed by a school principal. It is quite common for principals to network in the municipalities.
Portugal	Common patterns of school governance are that schools are grouped together with a collective management structure. Executive, pedagogical and administrative councils are responsible for their areas for groups of schools under a school cluster.
Scotland (United Kingdom)	Important political promotion of collaboration. "Heads Together" is a nationwide online community for sharing leadership experience.
Sweden	Municipal directors of education steer principals. Most of them are members of directors of education steering groups where strategy, development and results are discussed.

Source: OECD (2008), *Improving School Leadership Vol.1: Policy and Practices, http://dx.doi.org/10.1787/9789264044715-en.*

Use evaluation to foster learning

Strengthen the developmental function of teacher evaluation

There needs to be a stronger emphasis on teacher evaluation for development purposes. Given that there are risks that the developmental function is hampered by the high-stakes teacher attestation process, it is proposed that a component predominantly dedicated to developmental evaluation, fully internal to the school, be formalised. This development evaluation would have as its main purpose the continuous improvement of teaching practices in the school. It would be an internal process carried out by line leaders, senior peers, and the school management. The reference standards would be the suggested teaching standards but with school-based indicators and criteria. This evaluation should also take account of the school objectives and context. The main outcome would be feedback on teaching performance which would lead to an individual plan for professional development for each teacher in the school. It can be low-key and low-cost, and include self-evaluation, peer evaluation, classroom observation, and structured conversations and regular feedback by the school management and experienced peers. It could be organised once a year for each teacher, or less frequently

depending on the previous appraisal of the teacher. The key aspect is that it should result in a meaningful report with recommendations for professional development. Of course, it can draw on the experience most schools in Kazakhstan have had with internal teacher evaluation processes. The need is for these to become systematic and consistent across schools through the introduction of teaching standards as the main reference (see Chapter 3) and the provision of guidelines and instruments at the national or regional level.

In order to guarantee the systematic and coherent application of teacher developmental evaluation across Kazakh schools, it would be important to undertake the external validation of the respective school processes. An option is for school attestation processes to include the audit of the processes in place to organise teacher developmental evaluation, holding the school principal accountable as necessary. The support structures from local education authorities could play an important role in ensuring that schools develop ambitious developmental evaluation processes to be properly documented in school activity reports.

The teacher attestation process should remain as the component of teacher evaluation predominantly dedicated to accountability. Its main purpose should continue to be holding teachers accountable for their practice and determining career advancement but should also inform the professional development plan of the teacher. This approach conveys the message that reaching high standards of performance is the main path to career advancement in the profession. A much-needed improvement to the teacher attestation process is the way student results are considered as an evaluation criterion. As explained earlier, raw UNT results or prizes at Olympiads do not necessarily capture the performance of a teacher. The particular context of Kazakhstan which calls for "objective" measures to be used (for transparency reasons) as well as the need to convey a strong message about the importance of student results, should continue to grant available student results an important role in teacher evaluation. However, results in the UNT can be taken into account in more qualitative ways as with the analyses of portfolios, self-evaluations and teacher interviews.

Introduce school leader appraisal

All school leaders should be required to undergo a meaningful appraisal process. This requires designing specific criteria, guidelines and consequences for the appraisal system. It should provide school leaders with feedback to foster improvement, recognise their achievements and identify those who might need more support. To be effective, the appraisal should be well-rounded rather than based in narrow measures of school performance. Also, more rigorous processes to inform professional development opportunities as well as recognise performance are needed.

Use school evaluation as a lever for sustained improvement in schools

External school evaluation processes should strengthen their focus on school improvement and move away from the current "compliance" driven model. This could involve the separation of school attestation into two distinct processes: (i) external evaluation focussing on teaching and learning processes at the school; and (ii) an audit process to assess the school's compliance with school regulations, including possibly financial regulations. This would mean that the Committee for Control in the Field of Education and Science would run separate processes with these two distinctive functions.

The external evaluation focussing on teaching and learning processes would involve providing advice for improvement to all schools evaluated. This would require developing nationally agreed criteria for school quality to guide school evaluation. The criteria and questions governing judgements and the methods employed should all focus much more directly on the quality of learning and teaching and their relationship to student outcomes (OECD, 2013b). An agreed framework of school quality indicators should then be established and made widely available to schools and the wider public, granting the transparency of the evaluation process. Follow-ups should be generalised, and not be organised in "failing" schools only, as the result of requiring schools to establish an improvement plan regardless of the results of the school evaluation. All schools should be provided with feedback and recommendations for improvement. A programme of follow-up visits, suitably differentiated on the basis of the original report, would give added impetus and credibility to the overall evaluation process.

External evaluation reports, or parts of them, should become public to inform the school's community and the wider public. Attempts should be made to make the reports user-friendly including, for example, succinct summaries highlighting key findings from evaluations and priorities for improvement. Processes to organise external evaluations could also be made more efficient than is currently the case in Kazakhstan by considerably reducing the size of evaluation commissions, simplifying the content and structure of the evaluation report, reducing the paperwork involved and ensuring the school's self-evaluation report feeds into its own self-improvement processes.

An important aspect of providing advice to schools consists of identifying good practice in the school system. Systematic analysis of key features and sharing examples of good practice would be useful, especially for those schools which are identified as having lower performance. Overall, it seems that the identification and sharing of good practice is still fairly uncommon in Kazakhstan and the Committee for Control should reinforce its role in this function. The idea is that high quality schools and examples of good practice in specific areas are identified, and showcased to other schools as exemplars.

School self-evaluation is of key importance to school improvement and quality assurance and needs to be consolidated in Kazakh schools. An option to strengthen self-evaluation is to establish requirements for schools that promote strategic planning, for example, the drawing up of a 4-to-5 year strategic plan and regular updates of school progress on this plan, or the development of annual school reports about their achievements, challenges and strategies for improvement. The process of meeting specified strategic planning requirements would be a stimulus for many schools to further their self-evaluation practices and would hold strong potential for school improvement. School self-evaluation is also an opportunity for engaging the school community. An important element in promoting school self-evaluation is to ensure that schools are provided with self-evaluation instruments designed at the national or regional level as well as guidelines to help them through the process.

Develop contextual information on schools to publish alongside student results

Due to the strong associations between student performance at the school level and student intake evident in educational effectiveness research conducted in many countries, it is recommended that any publication of UNT results at the school level should be presented in ways that take account of intake differences including, for example, the socio-economic background of students. In some countries data on student attainment are presented for

"like" groups of schools (sometimes termed families of schools that have similar intakes) or contextualised value added measures have been adopted (e.g. in England). Also, it needs to be recognised that the UNT, as mostly a higher education entrance examination, has not been designed to evaluate individual schools and is taken on a voluntary basis by students who want to enter higher education. It is therefore not clear whether such tests can actually capture the value each school has added to the learning of its students, which raises questions about the interest of their publication at the school level.

Also, contextual information to explain the performance of each school can be provided through the publication of school attestation reports alongside any school-level data on student achievement. School attestation reports have the potential to provide a more holistic view of the school's performance to parents and the wider community. However, to be fully meaningful to all stakeholders, the narrative of school attestation report must be expressed in ways which convey clear and simple messages and do not require highly sophisticated understanding of either statistics or education.

Notes

1. TIMSS 2011 reports the number of hours per year for instruction in mathematics and, separately, for science. These numbers of hours were calculated from teachers' and principals' reports of the number of days in the school week and the school year, the number of instructional hours per day, and the number of hours in the school week for teaching science and mathematics. PISA 2012 asked students to report the number of minutes in a class period and the number of class periods per week for mathematics, language of instruction and science, from which the number of minutes per week was computed. These numbers are consistent with the sample schedule of lessons from one tri-lingual school, summarised in Figure 4.A2.1 of Annex 4.A2.

2. This figure excludes Karaganda and North Kazakhstan regions, as well as the city of Almaty, for which data were not readily available.

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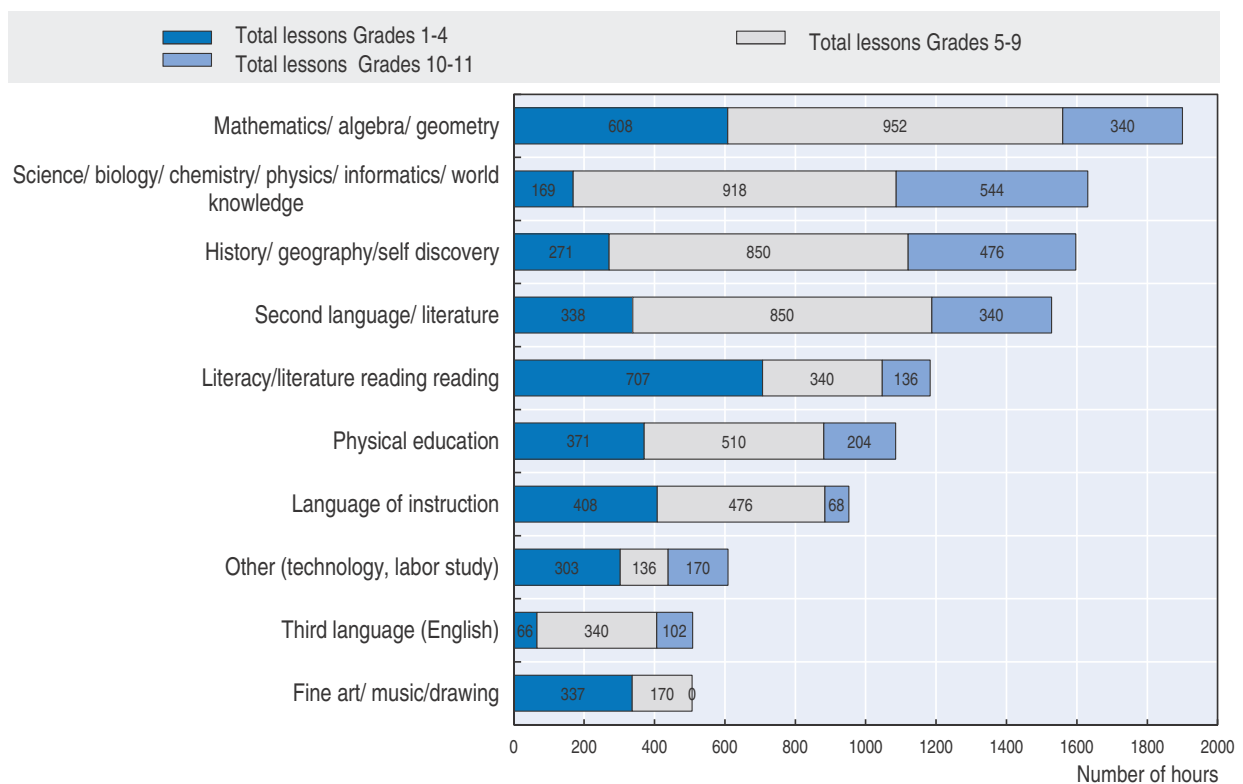
ANNEX 4.A1

Staffing requirements in schools

Table 4.A1.1. **List of school employees other than teachers**

Positions	Workloads (on the basis of the number of consolidated classes)						
	till 6	6-10	11-13	14-16	17-20	21-29	30 and more
Principal	1	1	1	1	1	1	1
Deputy Principal for academic affairs	-	0.5	1	1	1	1.5	2
Deputy Principal for educational work	-	0.5	1	1	1	1.5	2
Deputy Principal for economic activities	-	-	-	-	1	1	1
Head of the household	1	1	1	1	-	-	1
Chief accountant	-	-	-	1	1	1	1
Accountant	1	1	1	1	1	1	2
Educational psychologist	0.5	1	1	1	1	1.5	2
Senior leader	0.5	0.5	0.5	1	1	1	1
Nurse	0.5	0.5	0.5	1	1	1.5	1.5
Medical attendants	-	-	-	0.5	0.5	0.5	0.5
Chief librarian	-	-	-	1	1	1	1
Librarian	-	0.5	0.5	-	-	-	1
Clerk	0.5	0.5	0.5	1	1	1	1
Secretary	-	-	-	1	1	1	1
Work on complex maintenance and repair of buildings (per building)	1	1	1	1	1.5	2	2
Guard	3	3	3	3	3	3	3
Doorman for each building	1	1	2	2	2	2	2

Note: The table specifies the staffing requirements in public schools for leadership and support positions. One full load (indicated as 1 in the table) is equivalent to 40 hours per week. It is important to note that one person might hold more than one position and teaching duties or other tasks. In primary schools, the position of principal is set at 8 or more classes and not less than 240 students. Staffing requirements vary for specialised schools (e.g. gymnasiums, lyceums).
Source: Government Decree of the Republic of Kazakhstan dated January 30, 2008, No. 77.

ANNEX 4.A2

Example of lesson allocation in a school, by subject

Figure 4.A2.1. **Example of lesson allocation, by subject (hours per year)**

Source: IAC (2014), *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools: Country Background Report for Kazakhstan, www.oecd.org/edu/school/schoolresourcesreview.htm.*

ANNEX 4.A3

Additional information on teachers

Table 4.A3.1. Requirements for teachers to access "higher-level" training programmes, by programme level

Basic Level
3-year teaching experience (if higher education qualifications) 5-year teaching experience (if VET qualification at secondary or post-secondary level)
Results of participation in professional competitions at a school, *rayon* (city) level
Results and prizes in subject Olympiads, creative contests, scientific and sports competitions at a school, *rayon* (city) level
Knowledge and application of innovative methods in the educational process
Dissemination of experience (e.g. publications) in the course of preparing and conducting *rayon* (city) conferences, seminars and forums.
Basic knowledge of ICT technologies

Intermediate Level
5-year teaching experience (if higher education qualifications) 7-year teaching experience (if VET qualification at secondary or post-secondary level)
Results of participation in professional competitions at a school, *rayon* (city) and *oblast* level
Results and prizes in subject Olympiads, creative contests, scientific and sports competitions at a school, *rayon* (city) and *oblast* level
Knowledge and application of innovative methods in the educational process
Development, or taking part in the development of training manuals and education programmes
Dissemination of experience (e.g. publications) in the course of preparing and conducting *oblast* (national) conferences, seminars and forums.
Knowledge of ICT technologies

Advanced Level
7-year teaching experience (if higher education qualifications) 9-year teaching experience (if VET qualification at secondary or post-secondary level)
Results of participation in professional competitions at a school, *rayon* (city), *oblast*, national (international) level
Educators of winners of subject Olympiads, creative contests, scientific and sports competitions at a *rayon* (city), *oblast*, national (international) level
Use of innovative methods and teaching technologies in the educational process
Development, or taking part in the development of training manuals and education programmes
Publications in teaching journals and periodicals
Dissemination of experience (e.g. publications) in the course of preparing and conducting national (international) conferences, seminars and forums.
Conducting training seminars and programmes at a *rayon*, *oblast* (city), international level, and is a mentor for beginning teachers
Advanced user of ICT technologies

Source: IAC (2014), *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools: Country Background Report for Kazakhstan, www.oecd.org/edu/school/schoolresourcesreview.htm.*

Table 4.A3.2. **Qualification requirements for teacher attestations, by category**

Teacher category		Educational Attainment and years of experience	Teachers should be able to do
School teachers with a VET qualification at secondary or post-secondary level	No Category	Pedagogical technical and vocational education (specialised secondary, vocational)	Not specified in document.
	2nd Category	Technical and vocational education (specialised secondary, vocational) + 3 years of teaching experience	Must be able to use the forms and methods of active learning, develop student assessments, provide lasting educational benefits to students, participate actively in work groups, teaching unions, and schools of excellence within the educational establishment.
	1st Category	Technical and vocational education (specialised secondary, vocational) + 4 years of teaching experience	Must meet all requirements for teachers with 2nd category; must also be able to create their own methods of teaching the subject, assess students, supervise the work of art groups, teaching unions, schools of excellence, and a publication in the pedagogical publications on education.
	Highest Category	Technical and vocational education (specialised secondary, vocational) + 5 years of teaching experience	Must meet all requirements for teachers with 1st category; must also be able to develop original programmes for teaching the subject, new curricula and educational technology, as well as on their assessments, conduct research addressing issues in their subject, and lead creative teams to develop topical issues in education.
School teachers with a higher education qualification	No Category	Higher teacher education	Not specified in document.
	2nd Category	Higher teacher education + 3 years of teaching experience	Must be able to create their own methods of teaching the subject, use the forms and methods of active learning, develop student assessments, provide lasting educational benefits to students, actively participate in work groups, teaching unions, and schools of excellence within the educational establishment.
	1st Category	Higher teacher education + 4 years of teaching experience; or a candidate of science degree + 2 years of teaching experience; or doctoral degree + 1 year of teaching experience	Must meet all requirements for teachers with 2nd category; must also be able to develop their own analysis techniques for teaching the subject, prepare and implement individual training programme, lead creative workshops, performance art groups, and use the best educational experience in their work.
	Highest Category	Higher teacher education + 5 years of teaching experience; or a candidate of science degree + 3 years of teaching experience; or doctoral degree + 2 years of teaching experience	Must meet all requirements for teachers with 1st category; must also be able to design new curricula and educational technology, design training programmes and assess them, conduct research on subject related issues, lead creative teams focusing on current issues in education.

Source: OECD (2014b), *Reviews of National Policies for Education: Secondary Education in Kazakhstan*, *http://dx.doi.org/10.1787/9789264205208-en.*