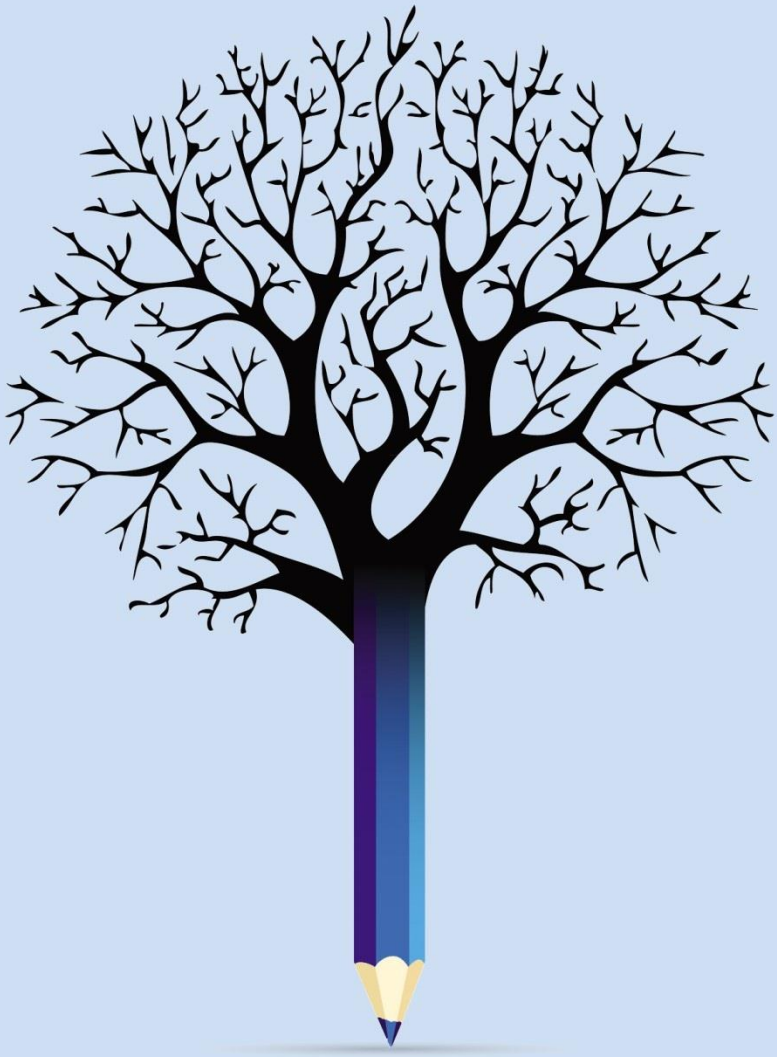
EDUCATION POLICY OUTLOOK

KAZAKHSTAN



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EDUCATION POLICY OUTLOOK

This **policy profile on education** in Kazakhstan is part of the *Education Policy Outlook* series, which presents comparative analysis of education policies and reforms across OECD countries. Building on the OECD's substantial comparative and sectorial policy knowledge base, the series offers a comparative outlook on education policy. The country profiles provide analysis of individual countries' educational context, challenges and policies (education policy profiles), analysis of international trends, and insights into policies and reforms on selected topics.

In addition to country-specific profiles, the series also includes a recurring publication. The first volume, *Education Policy Outlook 2015: Making Reforms Happen*, was released in January, 2015. The second volume, *Education Policy Outlook 2018: Putting Student Learning at the Centre* was released in June, 2018. Designed **for policy makers, analysts and practitioners** who seek information and analysis of education policy taking into account the importance of national context, the country policy profiles offer constructive analysis of education policy in a comparative format. Each profile reviews the current context and situation of a country's education system and examines its challenges and policy responses, according to six policy levers that support improvement:

- Students: How to raise outcomes for all in terms of 1) equity and quality and 2) preparing students for the future
- Institutions: How to raise quality through 3) school improvement and 4) evaluation and assessment
- System: How the system is organised to deliver education policy in terms of 5) governance and 6) funding.

Some country policy profiles contain spotlight boxes on selected policy issues. They are meant to draw attention to specific policies that are promising or showing positive results and may be relevant for other countries.

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Sources: This country profile draws on OECD indicators from the Programme for International Student Assessment (PISA), and refers to country and thematic studies such as OECD work on early childhood education and care, teachers, school leadership, evaluation and assessment for improving school outcomes, equity and quality in education, governing complex education systems, vocational education and training, and tertiary education. This profile also draws on information in the OECD Education Policy Outlook National Survey for Comparative Policy Analysis completed in 2018 by the Government of Kazakhstan.

Most of the figures quoted in the different sections refer to Annex B, which presents a table of the main indicators for the sources used throughout the country profile. Hyperlinks to the reference publications are included throughout the text for ease of reading, and also in the References and further reading section, which lists both OECD and non-OECD sources.

More information is available from the OECD Directorate for Education and Skills (www.oecd.org/edu) and its web pages on Education Policy Outlook (www.oecd.org/edu/policyoutlook.htm).

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HIGHLIGHTS

Kazakhstan's educational context

Students: Kazakhstan's performance in PISA 2012 was low compared to other countries [i]. While mathematics and science performance improved between 2009 and 2012, performance in reading has remained unchanged across PISA cycles. Kazakhstan has made significant progress in expanding access to early childhood education and care (ECEC) in recent years and has extended the years of compulsory education. Its education system reflects its rich diversity in terms of ethnicity, religion and language. However, despite stronger support to top performers, only a small share of Kazakhstan's 15-year-olds scored at the top two levels of PISA mathematics assessments in 2012, and there are large performance gaps observed in PISA 2012 for certain groups of students. Youth in Kazakhstan do relatively well in the labour market and overall unemployment rates are low. However, there is potential for increasing productivity by raising the level of skills. Enrolment in higher education is almost 50%, with falling absolute numbers of students entering higher education.

Institutions: According to self-reports from students and school leaders in PISA 2015, Kazakhstan appears to benefit from comparatively positive learning environments with few disruptions, low levels of teacher absenteeism and widespread after-school activities. In general, although there are exceptions, only teachers who have completed an initial teacher education degree and with at least five years of pedagogical experience can apply for deputy and school principal positions. In 2017, virtually all principals had completed at least a higher education degree and 2.8% had post-graduate qualifications. Teachers benefit from a career structure associated with a teacher certification process known as teacher attestation. In a national survey (2012), about two-thirds of teachers had identified at that time insufficient qualifications as one of the possible factors hindering student learning. Formal qualifications of Kazakh teachers have improved in recent years. Teachers and school leaders should undertake professional development at least once every five years to improve their qualifications; they are also eligible to participate in other professional development in the meantime. Teaching conditions in Kazakhstan include low student-teacher ratios, but also lower salaries. Kazakhstan has taken some steps to raise the quality and status of the teaching profession. The country has also worked to improve the quality of its data and of its evaluation and assessment processes. However, data collected could be used more consistently to inform teaching and learning in schools.

***System*:** Kazakhstan has a centralised education system, with extensive central planning and a detailed system of norms. Compared to OECD countries, Kazakh schools have lower levels of autonomy, but school principals have comparatively high autonomy to manage teacher resources, namely teacher recruitment, the allocation of teaching duties and teacher dismissal. Although the largest disbursements are made by local authorities (rayons), the areas in which they can exercise discretion are limited. Factors driving costs include small-classes, strict staffing norms and reductions in school budgets. Kazakhstan had 130 higher education institutions in 2017. After rapid growth of the number of private institutions since 2000, Kazakhstan has been making efforts to reduce this number through, for example, mergers or closures. Considerable efforts have also been made to decentralise higher education for over a decade, which need to be continued.

Key policy issues

Kazakhstan has the key challenge of improving learning outcomes for all students across socio-economic backgrounds and performance levels, in a context of highly uneven demographic density. Improving the quality and coverage of ECEC needs to remain a priority in Kazakhstan to ensure that all children have a strong start in education. Another challenge is improving the attractiveness and conditions of the teaching profession. While evaluation mechanisms have been evolving significantly, the country still faces the challenge of providing high-quality data, raising accountability and ensuring that data collected are used to inform teaching. Kazakhstan has extensive central planning, but low local and school autonomy can hinder the ability of schools to respond to local needs. Kazakhstan needs to provide sufficient resources to enable putting the school at the centre of its education system. It also needs to reflect on how resources can be allocated more efficiently and equitably to reach schools.

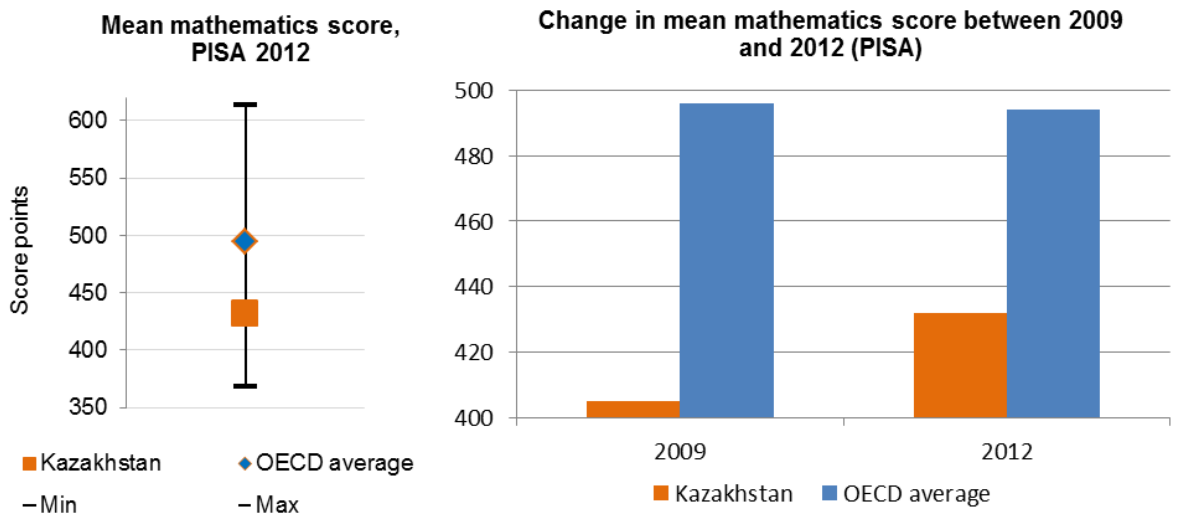
Selected recent policy responses

The State Programme for Education and Science Development in the Republic of Kazakhstan for 2016-2019 aims to expand participation in ECEC. As part of these efforts, Kazakhstan increased the number of ECEC institutions, which led to an increase in participation rates.

Kazakhstan is transitioning to a 12-year compulsory education system (also referred to as the "0+11" model), as well as to a more competence-based pedagogical approach. In 2017, Kazakhstan updated the State Compulsory Standard (SCS) of Primary Education and SCS for General and Secondary Education. It also established assessment criteria for student knowledge, and curricula and programmes for primary and general secondary education.

Kazakhstan's performance in mathematics was lower than the OECD average in PISA 2012, with 432 score points compared to the OECD average of 494 score points (Figure 1). Between 2009 and 2012, mathematics performance improved by 27 score points and performance in science saw a similar improvement of 24 score points. On the other hand, performance in reading has remained mostly unchanged across PISA cycles, based on possible comparisons. Kazakhstan's share of low performers decreased by 13.9 score points between 2009 and 2012; although at 45.2% in PISA 2012 it was still nearly twice as high as the OECD average (23.1%).

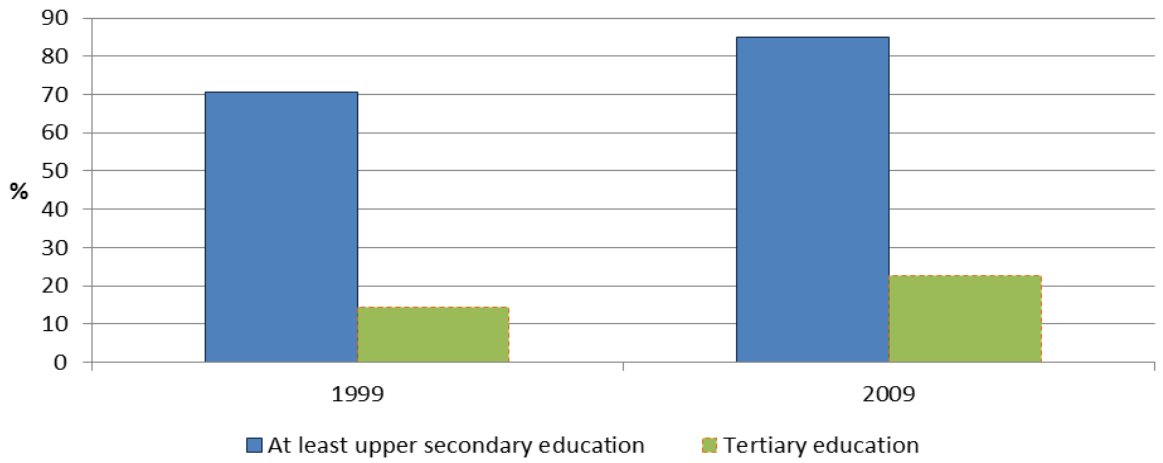
Figure 1. Trends and comparative performance of 15-year-olds in mathematics, PISA



Note: "Min"/"Max" refer to PISA-participating countries with the lowest/highest values.
Source: OECD (2014), *PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/9789264208780-en.

Secondary and tertiary attainment in Kazakhstan has improved in recent years (Figure 2). In 2009, 85% of adults aged 25 and over had attained at least upper secondary education, compared to 70% in 1999. However, less than a quarter of 25-34 year-olds (23% in 2009) had attained tertiary education in 2009, compared to 14% in 1999.

Figure 2. Evolution of secondary and tertiary attainment of adults in Kazakhstan (aged 25 years and over), 1999 to 2009



Source: UNESCO Institute for Statistics database (accessed April 2018), http://data.uis.unesco.org/.

Spotlight 1. Key policies, challenges and previous OECD recommendations in Kazakhstan

Main policies from Kazakhstan included in this country profile	Key challenges identified and recommendations previously provided by the OECD to Kazakhstan
STUDENTS	
▪ Introduction of the "0+11" model, with a transition to a 12-year compulsory schooling (2016). ▪ State Programme for Education and Science Development in the Republic of Kazakhstan for 2016-2019, ▪ Road to School (2010), ▪ Dual training system in Vocational Education and Training (VET) (2012), ▪ Free Vocational Education for All (2017), ▪ Bolashak scholarship programme (1993), ▪ Update of the State Compulsory Standard (SCS) of Primary Education and SCS for General and Secondary Education (2017), ▪ Greater emphasis on English as a foreign-language and language of instruction in subjects related to science, technology and engineering,	**Key challenges identified [2009, 2014, 2015, and 2017]:** Despite progress, Kazakhstan's PISA performance has remained well below the OECD average, in particular in reading. Previous OECD reports also identify the need to target students from disadvantaged backgrounds or with learning difficulties. Education needs to be made more relevant and align labour market needs to students' interests and future development needs. **Summary of previous related OECD recommendations:** The OECD has recommended that greater attention be given to low performing and disadvantaged students and schools, for example, rebalancing the allocation of resources from elite students and other students in the system. The OECD has also expressed that expectations for all students should be raised system-wide and has discouraged the grouping of students into separate classes by ability. Analysis from the OECD has found that the country could benefit from reinforcing linkages between VET and higher education institutions (HEI) and employers. Placing greater emphasis on "21st century" competences is also found by the OECD as key to fostering higher-order thinking skills.
INSTITUTIONS	
▪ Participation in teacher professional development in the National Skills Upgrading Centre, Orleu (2011). ▪ "Atameken" professional standards for teachers (2017). ▪ Resource centres to support small-class schools (2012). ▪ The Law of Kazakhstan on Education (2007). ▪ Reform to UNT (2017). ▪ National Education Database (2013). ▪ Re-establishment of system review for ECEC settings (2015).	**Key challenges identified [2014, 2015, 2017]:** The OECD has identified as a priority the need for Kazakhstan to strengthen its teaching profession by making it more attractive and raising qualification standards. It has also found that Kazakhstan could benefit from ensuring the quality and validity of its data, strengthening transparency, and ensuring that assessment results inform teaching and policy. **Summary of previous related OECD recommendations:** The OECD has recommended that Kazakhstan take steps towards the development of a high-quality teaching and leadership force by raising the bar to enter the profession and limiting the number of places in initial teacher education to levels closer to the needs of the school system. The OECD has also advised Kazakhstan to improve the quality of initial teacher education programmes and institutions, and require a higher education qualification to enter the teaching profession at all educational levels. In terms of evaluation and assessment practices, the OECD has found that the country should move towards stronger evidence-based planning and monitoring of its education system, which includes improvement of data collection systems and practices.

SYSTEM

- The Committee of Control in the Field of Education and Science (2011) and regional offices.
- Establishment of Boards of Trustees in schools and higher education (2007).
- New funding model (2018).
- National Report on the State and Development of the Education System of the Republic of Kazakhstan.

Key challenges identified [2014, 2015, and 2017]: Public spending on education as a share of GDP is comparatively low. Most spending went to teachers' salaries and less than needed to infrastructure or investment. Expenditure allocation is also not equitable. Despite significant progress, the system remains highly centralised and top-down, which leaves very little political, administrative and fiscal authority to lower levels.

Summary of previous related OECD recommendations: The OECD has recommended a gradual expansion of public spending in education to meet the sector's ambitious strategic plans and reach OECD standards (5-6% of GDP). According to the OECD, Kazakhstan should prioritise investments to the early educational years as well as to equity- and quality-enhancing processes. The OECD has also found that Kazakhstan could benefit from developing a national vision for education provision in rural areas to consolidate some small-class schools and foster greater flexibility to allow for more efficient resource management. The need to provide greater autonomy to schools and lower levels of government to enable them to foster improvements in education was also identified. This will require strengthening performance monitoring, capacity and accountability mechanisms in the education system.

Note: The information on key challenges and recommendations contained in this spotlight draws from a desk-based compilation from previous OECD publications (subject to country participation). The spotlight is intended for exploratory purposes to promote policy dialogue and should not be considered an evaluation of the country's progress on these recommendations. Causality should not be inferred either: while some actions taken by a country could correspond to previous OECD recommendations, the OECD acknowledges the value of internal and other external dynamics to promote change in education systems.

Sources: OECD Review of Kazakhstan, Kyrgyz Republic and Tajikistan – Students with Special Needs and those with Disabilities [2009], OECD Review of Secondary Education [2014], Skills Beyond School Review [2014]/ OECD Review of School Resources Kazakhstan [2015] / Review of Higher Education [2017].

EQUITY AND QUALITY: ENSURING EDUCATION FOR ALL STUDENTS

Kazakhstan's mathematics performance was among the lowest in PISA 2012: 432 score points compared to the OECD average of 494 score points. Between 2009 and 2012, mathematics and science performance improved, while performance in reading remained unchanged. Kazakhstan's share of low performers decreased by 13.9 score points between 2009 and 2012. However, at 45.2% in PISA 2012, it remained nearly twice as high as the OECD average (23.1%). Socio-economic status explained 8% of the variance in mathematics performance in 2012 (OECD average 14.8%). Kazakhstan has shown improvements in the Trends in International Mathematics and Science Study (TIMSS) between 2011 and 2015 - equivalent to two years of schooling – and high overall performance levels.

ECEC policies can improve opportunities for students to succeed in education and life later on. PISA 2012 results showed that Kazakh students who attended more than one year of pre-primary education (24%) scored 11 score points higher than their peers who did not receive pre-primary education, after accounting for socio-economic background. In 1999, Kazakhstan introduced compulsory and free-of-charge pre-primary education for 5-6 year-olds. In recent years, Kazakhstan has made significant progress in expanding access and funding to ECEC (see Spotlight 2): in 2017, 90.5% of children aged between 3 and primary school age (6-years-old) attended some form of ECEC. However, sustained efforts are needed to improve provision in urban areas, where there is a comparatively low number of places. Participation rates for children over the age of 3 were lowest in the cities of Astana (76.4%) and Almaty (81.2%) in 2017, which receive large inflows of population migrating from small towns.

According to OECD evidence, certain system-level policies can favour equity, such as the limited use of grade repetition. Grade repetition in Kazakhstan is significantly lower than the OECD average, only 1.9% of 15-year-olds reported in PISA 2015 that they had repeated a grade, compared to the OECD average of 12%. The extension of compulsory schooling from 11 to 12 years in 2017 means that students begin education at age 6 and end at age 17, longer than the typical duration across the OECD (see Spotlight 3). Students are streamed into different educational pathways at grade 9 (age 15), similar to OECD countries.

Equity in education is about providing adapted opportunities for all to succeed, and should therefore include inclusive support to students at different performance levels and with different backgrounds. Kazakhstan's education system reflects its rich diversity in terms of ethnicity, religion and language. Over half (53.1%) of general day schools offer instruction in Kazakh, while 17.5% offer instruction in Russian and 28.9% are schools with Kazakh- and Russian-medium instruction. Kazakhstan is also placing greater emphasis on English as a foreign-language and language of instruction in subjects related to science, technology and engineering (see Spotlight 3). There is also a growing number of students in schools for the gifted, as well as specialisation schools that teach several subjects at advanced levels. The most prestigious are the Nazarbayev Intellectual Schools (NIS), which are attended by less than 1% of students but receive more funding than mainstream schools (see Funding). Despite this stronger support to top performers, only 0.2% of Kazakhstan's 15-year-olds scored at the top two levels of PISA mathematics assessments in 2012 (compared to the OECD average of 8.4%). At the same time, large performance gaps are observed in PISA 2012 for certain groups of students. For example, students in professional schools are behind their peers in general secondary, and students in Kazakh-language schools are behind students in Russian-language schools. The performance gap for both comparisons is larger than 1.5 years of schooling in reading. Students in rural areas scored on average 8.98 points lower than those in urban areas in the Unified National Test (UNT) in 2017. However, the achievement gap appears to be closing, as rural students' performance is improving more rapidly (3.86 points increase between 2012 and 2013) than for their urban peers (2.89 points increase in the same time period). Evidence from PISA suggests that improving high and low performance can go hand in hand, but reductions in low performance drive overall improvements in the education system.

Key strengths and challenges in equity and quality	
Key strengths	**Key challenges**
▪ Kazakhstan has achieved universal access to primary and secondary education, and is working to expand access to ECEC. ▪ PISA evidence suggests gender parity in access and performance in education, as well as average weaker influence of socio-economic background on performance than across OECD countries.	▪ Kazakhstan faces the challenge of further improving ECEC coverage and quality and raising the performance of all students, especially those from disadvantaged backgrounds, those attending ungraded or rural schools and low-performers. ▪ Evidence points to the need to make the education system more inclusive, in particular for students with special education needs.

Recent policies and practices

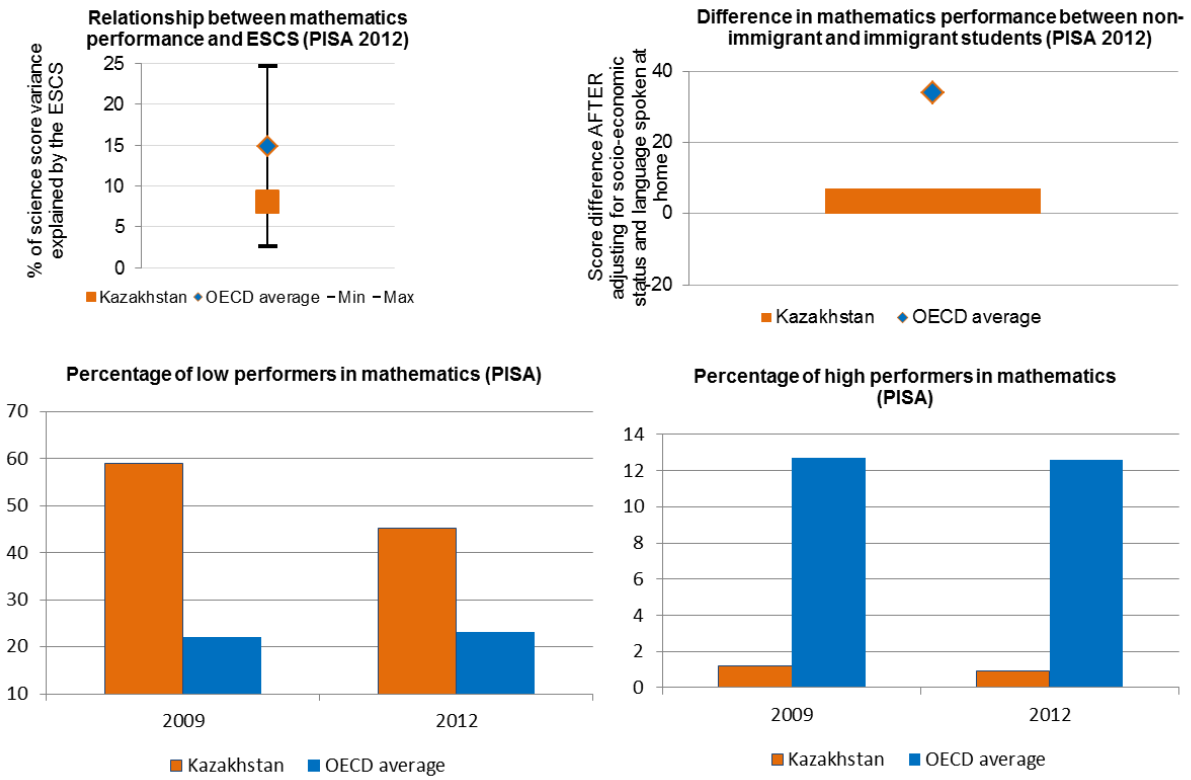
Kazakhstan has been working to expand education coverage. The State Programme for Education and Science Development in the Republic of Kazakhstan for 2016-2019 aims to expand participation in ECEC (Spotlight 2). Furthermore, with the introduction of the “0+11” model, Kazakhstan has been transitioning to a 12-year compulsory education system. This implementation process began in 2016, after a 2015/16 pilot in 30 schools and an experimental trial in 104 schools in 2012. The government aims to achieve full implementation by 2019/2020. The new “0+11” model is also associated with Kazakhstan’s attempt to transition to a competence-based approach (See Spotlight 3).

Kazakhstan has taken some steps towards the inclusion of students with special needs and disabilities in mainstream schools. Students with a disability now have the right to attend mainstream schools if their parents choose. The proportion of schools with facilities to accommodate children with special needs rose from 10% in 2010 to 55% in 2017. In 2017, 23.3% of students with special educational needs aged 7-18 were covered by inclusive education facilities. By 2019, according to the objectives of the State Programme for Education and Science Development in the Republic of Kazakhstan for 2016-2019, the government aims for 70% of mainstream schools to have inclusive facilities.

Kazakhstan is also working to reduce the numbers of out-of-school children through the Road to School and Care initiatives. Road to School is a multi-sectoral programme which takes place each August to raise awareness of the importance of enrolling in school and provides financial support and school materials to students from socially disadvantaged groups. Care works with teachers during the school year to identify students within a district (rayon) who are out of school or have been absent for more than 10 days without a valid reason, and offers assistance to help them return to school. During 2010/16, Care provided material assistance (i.e. uniforms, pens, pencils, notebooks, school bags) to over 1.1 million disadvantaged students, while the Road to School programme benefitted over 2.4 million students over 2008/16. Despite these efforts, an increase in the number of out-of-school students in 2017 indicate that keeping students in education should remain a priority in the government’s policy agenda.

A national pilot was initiated in 2012 to introduce resource centres to support small-class schools (also known as ungraded schools), by integrating all available resources and compensating for missing resources. However, they only target students in grades 8 and 9. In 2017, there were 162 resource centres - including 52 boarding schools - for 488 ungraded schools, a significant increase from 26 in 2011. Efforts that Kazakhstan could undertake to help improve their impact include: mapping schools (to decide where resource centres would be helpful and where it would be best to consolidate, or where it is best to keep small classes), consulting schools in order to define the type of support they need most, or working to strengthen the mutual collaboration between teachers and school leaders of small-class schools and resource centres.

Figure 3. Selected equity and quality indicators for Kazakhstan, PISA



Note: "Min"/ "Max" refer to OECD countries with the lowest/highest values.
Source: OECD (2013), PISA 2012 Results: Excellence Through Equity: Giving Every Student the Chance to Succeed (Volume II), PISA, OECD publishing, Paris. http://dx.doi.org/10.1787/9789264201132-en.

Spotlight 2. ECEC in Kazakhstan

The State Programme for Education and Science Development in the Republic of Kazakhstan for 2016-2019 aims to expand participation in ECEC. As part of these efforts, Kazakhstan increased the number of ECEC institutions including mini-centres, kindergartens and nurseries, from 6 446 in 2010 to 9 828 in 2017, thus overtaking the level reached in 1991 at the time of the split with the Soviet Union. Higher provision levels have encouraged an increase in overall ECEC participation rates from 42% of all ECEC-aged children (1-6 year-olds) in 2010 to 66% in 2017. Participation of 3-6 year-olds has particularly increased, with 90.5% of children in this age bracket attending some form of formal ECEC in 2017.

Kazakhstan aims to reach universal participation for all 3-6 year-olds by 2020. Despite significant progress and efforts from the government, OECD evidence shows that access could be further improved. Equity challenges identified by the OECD for ECEC in Kazakhstan relate to geography, the children's socio-economic status and special needs. Almost 540 000 children are on a waiting list for an ECEC programme in a public setting, especially in urban areas. In particular, the report highlights that the participation of children under the age of 3, and the provision of nursery kindergartens, remained low in 2017, at 28.2% of children aged 1 to 3 attending a setting. To compensate for the lack of services for young children, mothers are legally entitled to take up to 3 years of leave.

According to the OECD, the rapid increase of coverage still needs to be met with good quality. This increase was facilitated by the absence of a licensing or accreditation system, which made it easier to open new ECEC settings. Although registration for ECEC settings was re-established in 2015, unfavourable minimum regulatory standards, in comparison to OECD countries, can have a negative impact on child development and staff-child interactions.

As noted in the OECD report, the fast increase in ECEC provision and the growing population in the ECEC age range is a challenge for Kazakhstan. Improving working conditions for ECEC teachers and staff, strengthening their status, and improving salaries and the professional education received were among the policy priorities mentioned in the review in order to help the country cope with teacher and staff shortages.

PREPARING STUDENTS FOR THE FUTURE: A NEED TO IMPROVE LEARNING OUTCOMES AND ENCOURAGE COMPLETION OF HIGHER EDUCATION

Labour market perspectives and the capacity to effectively develop skills can play an important role in the country's economic development. In 2018, Kazakhstan has high levels of labour force participation, at almost 80%, and low levels of unemployment, at 4.8%. According to a recent OECD study, 15-24 year-olds in Kazakhstan do comparatively well in the labour market, with the youth unemployment rate (4%) around a quarter of the OECD average. Some 8.7% of youth were neither in employment, education or training (NEET) in 2017, with nearly twice as many women NEET (11%) than men (6%). Similar to OECD countries, educational attainment plays an important role in shaping labour market outcomes, although a large proportion of jobs in Kazakhstan are still informal, lower-paid and in less productive sectors. Compared to the population with tertiary education attainment, those with primary education or below are ten times less likely to be employed, over three times more likely to be unemployed, and over four times more likely to be inactive. Enterprises identified an "inadequately educated workforce" as a factor hindering doing business in the country in the Global Competitiveness Index 2016/17.

Kazakhstan has high upper secondary attainment for the adult population aged 25 and above, at 85% (2009). A challenge shared by countries for upper secondary education is to provide relevant education that will prepare young adults for work or education and, at the same time, develop capacity for further learning. Kazakhstan had a net enrolment rate of 76.4% in upper secondary education in 2017 (with 99.85% in secondary education overall). However, an OECD report identified that more needs to be done to eliminate persisting inequalities in access and to raise learning outcomes. PISA data show more efficiency from Kazakh secondary education at teaching theoretical knowledge compared to higher-order skills. The current transition to a competence-based approach and a greater focus on science, technology, engineering, and mathematics fields (Spotlight 3) is a welcome step.

High-quality VET that is closely aligned to labour market needs will also be key to building the skills needed to foster economic prosperity and help individuals successfully navigate the labour market. Enrolment in vocational programmes at upper secondary level in Kazakhstan was 17% in 2017. Students can choose to enter VET institutions after 9th or 11th grade, when they get basic secondary education diploma or general secondary education diploma. An OECD Review found that on average, Kazakhstan VET colleges offer high quality provision and have well-established links with employers. By law, all programmes must offer 60% workplace learning. Despite these positive findings, national reports suggest that VET lacks qualified teaching staff with adequate working experience, and its status in society is still to be improved. In light of these challenges, previous OECD studies have recommended that Kazakhstan develops and strengthens alternative pathways to higher education and transfers from the VET sector.

Kazakhstan's higher education enrolment rate [ii] was approximately 50% in 2017. However, over the past ten years, the absolute number of students entering higher education (including post-secondary technical and vocational education) has declined by 36%, linked to demographic changes and falling enrolment in part-time education. In 2017, over 50 000 students (10%) dropped out of their respective programmes due to reasons such as poor academic performance or transitions to other forms of education. Recent OECD evidence suggests that Kazakhstan's higher education system could benefit from placing additional emphasis on relevant "21st century" skills, which include not just technical skills and knowledge, but also transversal skills, such as literacy, problem solving, teamwork or adaptability. Such skills are critical for labour market success and for students' well-being more generally. Kazakhstan also needs to strengthen the quality of its staff and enhance the preparedness of students entering higher education so that they can succeed in their studies at this education level. Other areas of improvement relate to processes, such as instructional methods, work-integrated learning or university/employer engagement to shape the curriculum.

Key strengths and challenges in preparing students for the future	
Key strengths	**Key challenges**
▪ Kazakhstan has achieved high levels of educational attainment at upper secondary education for all adults above the age of 25. ▪ Strong features identified in VET colleges include high-quality provision, on average, and well-established links with employers.	▪ Kazakhstan needs to develop an education system that provides skills that meet the needs of the students, the labour market, and the countries' future development priorities.

Recent policies and practices

In 2012, elements of a dual training system in VET were introduced in Kazakhstan, with the aim of providing students with theoretical training and opportunities to undergo apprenticeships in companies. The number of VET colleges implementing dual training increased from 176 in 2013 to 460 in 2017, and the number of students increased from 2 400 to 31 000 over the same period. During 2017/18, nearly 31 000 students were provided by workplace learning placements. To improve work-based learning, Kazakhstan has been championing job internships for VET students and teachers. Agreements have been signed with employers for 5 000 students to receive a stipend from companies while undertaking workplace learning placements. A comprehensive assessment of the dual training system has not yet been conducted in Kazakhstan.

In 2017, Kazakhstan launched the initiative, Free Vocational Education for All, which aims to offer free of charge initial workforce qualifications, as well as short-cycle vocational education and training for all, including socially vulnerable segments of the population and students from low-income backgrounds or with disabilities. The goal is for more than 720 000 students to attain a VET qualification under this initiative by 2021.

Kazakhstan adopted the Bologna Process in 2010 as part of its efforts to promote the internationalisation of its higher education sector. Initiatives to bring practices in line with Bologna standards include the implementation of a system for translating national Kazakhstani credits into European Credit Transfer and Accumulation System (ECTS) credits, and changes to the duration of bachelor's, master's, and doctoral degrees into four, two and three-year cycles, respectively. Remaining challenges to improve the implementation process identified by the OECD Review in 2017 include addressing regulations in the Law on Education (2007) that continue to impede students from freely selecting courses or instructors (as had been intended by Kazakhstan when it joined the Bologna Process), which limits mobility and flexibility in the credit-based learning.

The Bolashak scholarship programme (1993) targets Kazakh students aiming to enrol in a university in one of the 33 countries covered by the programme, in key fields including economics, public policy, science, engineering and medicine. Bolashak scholarships have been awarded for bachelor's, master's and (since 2005) for doctoral degree studies. Since 2008 they have also been awarded for research activities. Support for studies at the bachelor level was discontinued in 2011 as the focus is now placed on graduate programmes. Scholarships cover tuition fees, accommodation expenses and aeroplane tickets. Since its inception, over 12 800 students have benefitted from Bolashak scholarships. Upon completion of their study abroad, recipients must work in Kazakhstan in the discipline of their degree for 2-5 years. As the programme continues to evolve, it should strive to make better use of its existing assets, particularly its alumni network.

Spotlight 3. Kazakhstan's efforts to transition to a competence-based approach

Kazakhstan has been moving towards a more competence-based pedagogical approach since 2016. This is a welcome change and is in line with previous OECD recommendations, which cautioned that Kazakhstan's current curriculum is excessively theoretical, wide and superficial. A more engaging, practical and relevant curriculum can help maintain student motivation, particularly for less academically oriented students. Some private schools and the Nazarbayev Intellectual Schools (NIS) already aim to teach their students high-order skills. However, an OECD study noted that teaching methods that work for gifted pupils in NIS schools may not work equally well for children from less advantaged families or in village schools. It will be critical to design curricula and programmes (including teacher training programmes) to serve the needs of all ability levels.

In light of these changes, in 2017, Kazakhstan updated the State Compulsory Standard (SCS) of Primary Education and SCS for General and Secondary Education. It also established assessment criteria for student knowledge and curricula and programmes for primary and general secondary education. The new standards are no longer based on a fundamentally subject-based approach. They now include social and emotional skills, such as critical thinking and creativity, and the focus on competences rather than rote-memorisation began being integrated into updated textbooks in 2016.

Within this reform, Kazakhstan is also placing greater emphasis on English as a foreign-language and language of instruction in subjects related to science, technology and engineering. Some 153 pilot schools began teaching physics, chemistry, biology and information technology in 10th and 11th grades in English. Since 2016/17, teachers in these fields are receiving English language courses as part of their professional development. Additionally, since 2017, teachers in these fields who attain a language certificate above the B1 level obtain a 200% compensation of their base salary. Another 357 schools are offering additional classes in English, such as extra-curricular activities and vocabulary lessons. Since 2016, English has also become a compulsory subject in pre-primary education for children over 5-years-old.

SCHOOL IMPROVEMENT: TEACHERS AND SCHOOL LEADERS NEED SUPPORT TO RAISE LEARNING OUTCOMES IN A COMPLEX EDUCATION SYSTEM

In 2017, a total of 7 047 public primary, lower and general upper secondary schools catered to 2 972 319 students in Kazakhstan. Self-reports from students and school leaders in PISA suggest that Kazakhstan benefits from a conducive learning environment where instructional time is provided with few disruptions, and comparatively little time is lost due to student behaviour or teacher absenteeism (see Figure 4). However, while urban schools tend to suffer from a shortage of student places and operate in multiple shifts, low population density in rural areas and policies favouring universal access have led to a large number of small-class schools (also known as ungraded schools). In 2017, 42% of the total number of public schools were small-class and catered to 8% of the student population. These are located particularly across rural areas and in regions such as North-Kazakhstan and Akmola. Small-class schools are confronted with specific challenges, such as improving infrastructure, addressing staff shortages, and improving the quality of education, which is often lower than other schools (see Funding).

Good school leaders are essential for improving the quality of teaching and learning environments in schools. In general terms, only teachers who have completed an initial teacher education degree and with at least five years of pedagogical experience can apply for deputy and school principal positions in Kazakhstan (although in the case of ungraded secondary schools, at least three years of pedagogical experience is required, while managerial experience is not mandatory). In 2017, virtually all principals had completed at least a higher education degree, and 2.8% had post-graduate qualifications. School leaders in Kazakhstan scored higher than the OECD average in the PISA 2015 index of educational leadership (measuring the levels of principals' engagement in leadership activities), at 0.55, compared to the OECD average of 0.01. At the same time, additional OECD evidence has identified that school leaders' development opportunities need to be more clearly connected to daily practice in schools, and could be strengthened, particularly in helping those who have been in the system longer to keep up with current practices.

Attracting, retaining and developing good quality teachers is essential for improving the quality of learning in Kazakhstan. Teachers benefit from a career structure associated with a teacher certification process, known as teacher attestation. In a national survey (2012), about two-thirds of teachers identified insufficient qualifications as one of the possible factors affecting student knowledge. Formal qualifications of Kazakh teachers have improved in recent years. In 2017, only about 9.5% of teachers in general secondary education did not have a higher education degree, usually in rural (10.7%) rather than urban schools (7.5%). Teachers and school leaders should undertake professional development at least once every five years to improve their qualifications (see recent policies). The OECD has previously recommended that Kazakhstan develop professional standards for teachers and school leaders, raise the bar to enter the profession, limit the number of places in initial teacher education to levels closer to the needs of the school system, improve the quality of initial teacher education programmes and institutions, and require a higher education qualification to enter the teaching profession at all educational levels. Further to these recommendations, Kazakhstan introduced professional standards for teachers in 2017 (see recent policies).

Teaching conditions in Kazakhstan include low student-teacher ratios, but also lower salaries. The average student-teacher ratio is 10, ranging from 7 in North Kazakhstan to 19 in Astana City. Despite an overall oversupply of teachers in Kazakhstan, their inequitable distribution can translate into teacher shortages in rural areas and in certain subjects. Kazakh teachers are employed under a weekly teaching load system (*Stavka* system), which defines their basic compensation [iii]. According to an OECD study, a significant implication of this system is that teachers' small base salary provides an incentive to take on additional teaching hours and/or additional jobs in or outside of school, and hampers the attractiveness of the teaching profession. Despite progress, the basic salary of a teacher in 2011 with one teaching load, one with a higher education qualification and one with 15 years of experience in primary and secondary education, was 75% and 70% lower than the salary of a worker with comparable academic credentials, respectively. Kazakhstan has taken further steps to raise teacher remuneration (see recent policies).

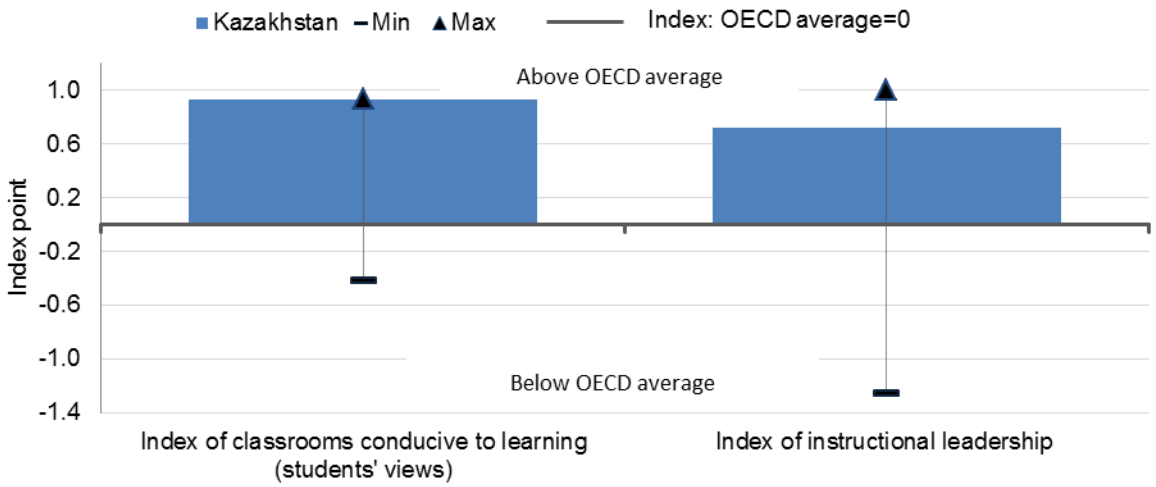
Key strengths and challenges in school improvement	
Key strengths	**Key challenges**
▪ PISA evidence suggests some conducive learning environments according to self-reports (e.g. low levels of student truancy or disruption in class). ▪ School-based professional development opportunities for teachers appear frequent.	▪ Kazakhstan faces the key challenge of establishing clear career pathways that strengthen the status of teaching and school leadership, raising the bar to enter the profession, and of providing quality education and improvement opportunities for them.

Recent policies and practices

Since 2011, teachers can participate in teacher professional development in the National Skills Upgrading Centre, Orleu, which aims to offer the opportunity to improve professional qualifications and become eligible for promotion. Teachers are expected to have participated in a number of professional development seminars or workshops, according to their rank, every five years. They are also eligible for other professional development opportunities. The required professional development activities are financed by the Ministry of Education and Science of the Republic of Kazakhstan (MESRK), and principals are responsible for administering them to teachers in their schools. There are financial compensations for teachers who have: 1) undertaken a three-level qualification course; 2) obtained a positive teacher appraisal that will lead to a higher qualification degree; and 3) attained English language certificates above B1 level (for teachers in physics, chemistry, biology and information technology, see Spotlight 3). According to a survey conducted by Orleu in 2017 regarding the practical application of the courses held in 2016, nearly half of teachers have observed changes in their teaching methods, and 40% reported that students are more motivated to learn.

Qualification requirements were revised with the introduction of professional standards for teachers in 2017. There are five categories of teachers (previously four): teacher, teacher-moderator, teacher-expert, teacher-researcher and teacher-master. Those who wish to upgrade their category must pass the national qualification test and undergo a stocktaking process; teachers can apply up to two times per year to upgrade their category. Category upgrades are associated with some increases in salaries. Given the recent introduction of the professional standards, it will be important for Kazakhstan to continuously monitor their implementation process of the professional standards to ensure that they support the teaching workforce to improve its practice.

Figure 4. The learning environment, PISA 2015



Note: "Min"/ "Max" refer to OECD countries with the lowest / highest values
Source: OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267510-en.

EVALUATION AND ASSESSMENT: A NEED TO ENSURE HIGH-QUALITY DATA AND INSTRUMENTS TO MONITOR PROGRESS AND SUPPORT IMPROVEMENT

Kazakhstan's efforts to improve the quality of its data and its processes of evaluation and assessment include the creation of a National Education Database, the digitalisation of data collection processes, and the reduction of the administrative burden of data collection that falls on schools and local authorities. These efforts need to continue to ensure the quality and validity of the education data collected.

A range of tools are used to monitor the performance of the education system in relation to the State Programme for Education and Science Development for 2016-2019, including student learning outcomes in the External Assessment of Educational Achievements (EAEA) and in the Unified National testing (UNT). International benchmarks of student performance, such as PISA and TIMSS, have also been influential in driving policy development at the system level. The Information Analytic Center (IAC) undertakes the collection and analysis of some educational statistics and evaluations.

Each school must be licensed before it can start operating and is then required to undergo an inspection process (attestation) at least every five years. Both processes are under the responsibility of the Committee for Control in the Ministry of Education and Science. The initial school licensing process focusses on minimum material and staff requirements (e.g. having the required staff or adequate buildings and equipment). The school attestation is based on education standards, as well as regulations about teaching staff, school infrastructure, and school operation (e.g. maximum class size). The school produces a self-evaluation report as part of the attestation, and the overall evidence collected throughout the process is made available in the form of an attestation report for consultation at the school. While schools do not need to undertake self-evaluation beyond the external attestation process, the OECD identified that discussions take place in schools and involve the teaching community to improve practices. In 2017, 60.6% of the schools that underwent the attestation process received a positive decision.

Teachers are required to go through a teacher attestation process at least once every five years, either to be promoted or to be able to keep their current status. This process, now formally based on teachers' professional standards (see School Improvement), takes into account teachers' results in a national qualification test and a stocktaking exercise, for which teachers prepare a portfolio. The OECD has previously identified the use of raw student achievement data (i.e. student assessment results, student prizes at Olympiads or other competitions) to compare the performance of individual teachers, schools, districts and regions as a challenge for Kazakhstan. This is because it could also lead to unfair comparisons, in particular across teachers, as results also reflect the impact of the student's family, the student's previous learning or school and local resources. Since 2017, teachers, schools and regions are not ranked according to UNT results, which is a positive step forward. The OECD has also previously recommended that Kazakhstan ensures that evaluation is clearly linked to professional development opportunities so that those involved in the process see it as a useful exercise. In contrast with attestation 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 no official appraisal criteria have been established yet. In practice, principals' attestation occurs during external school attestation processes by taking into consideration students' achievement and annual reports on teachers' professional development. The results of the attestation have no impact on principals' compensation or career progression.

Kazakhstan conducts the EAEA in grades 4, 9 and 11 among 20% of sampled schools (the EAEA for grade 11 was implemented only in 2017). The test includes four subjects: Kazakh and three others determined annually by MESRK. Results are used as key performance measures towards national goals. At the end of grade 12, students mainly go through: 1) a final exam for certification at the end of school, which includes five subjects, four of which are compulsory and one of which is elective; and/or 2) UNT for university admission and state grant distribution, which includes five subjects, two of which are elective (see recent policies). A third option is the Complex Test (CT), which is an alternative test for admission to higher education and eligibility for state grants. It targets VET graduates, as well as those who failed the UNT on their first attempt, who left school early, or who studied in foreign schools. It generally has a low success rate given its difficulty (similar to the UNT) and that those taking the test are often unprepared. OECD evidence suggests that like the UNT, the CT would benefit from efforts to improve its capacity of measuring higher order thinking and skills, or the range and depth of practical and theoretical knowledge.

Key strengths and challenges in evaluation and assessment	
Key strengths	**Key challenges**
▪ Kazakhstan has undertaken significant efforts to improve the quality of processes of evaluation and assessment at different system levels. ▪ Internal discussions to improve practices take place in schools and involve the teaching community.	▪ Education data needs to meet international standards, with quality and proper accessibility. ▪ Stronger understanding of evaluation and assessment instruments as tools for improvement need to be developed.

Recent policies and practices

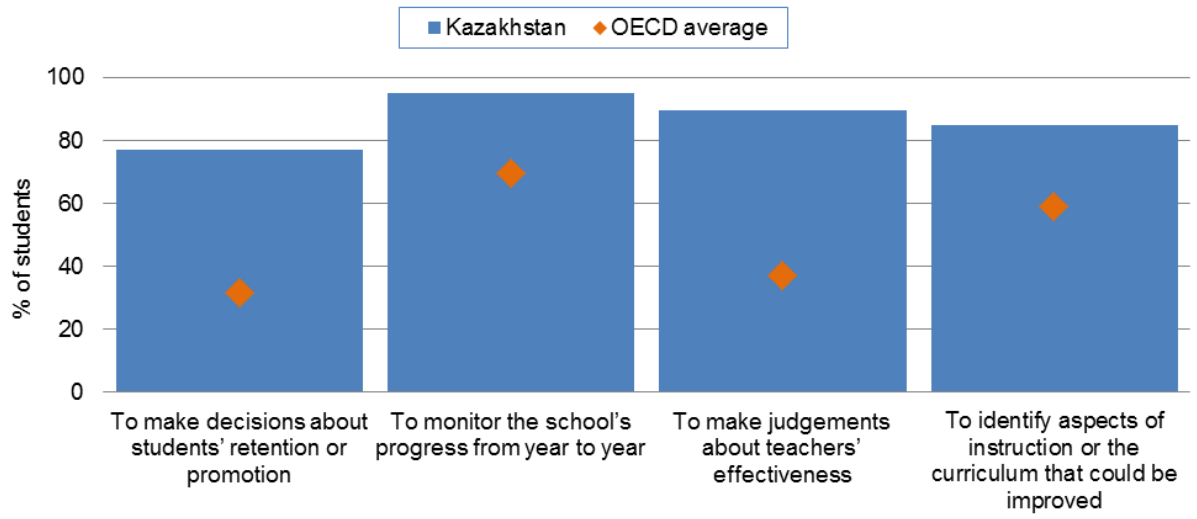
Since 2017, students have gone through a final exam for certification at the end of school, followed by a test for university admission and state grant distribution (UNT). Between 2004 and 2016, the UNT was a single exam for both certification at the end of secondary and for university admission. It was considered a high-stakes exam for students and teachers. According to an OECD study published earlier in 2017, the UNT played an important role in increasing transparency and reducing corruption. However, while these exams were a further step for improvement, the review identified that they still needed to recognise higher order competencies, such as problem solving and innovative thinking. Government efforts undertaken during the same year attempted to address some of these challenges, such as introducing questions measuring functional literacy and problem solving skills.

In 2013, Kazakhstan introduced the National Education Database. This electronic platform aims to: 1) make the data publicly accessible; 2) integrate different sources of information on education; 3) simplify and render more reliable the collection of data from schools, pre-school and VET colleges; and 4) offer transparency within the education system through the public release of the data. Such a platform should provide information on students, teachers, schools and the quality of education services, for all levels of education. An individual identification number allows for data collection at the individual student and teacher levels, while also securing personal data. The introduction of the National Education Database decreased the number of statistical forms from 467 in 2012 to 138 in 2017.

In 2015, the government re-established a registration system for ECEC settings. Settings are reviewed against safety, hygiene and health regulations when opening, and are re-evaluated after three years. After the first two initial evaluations, ECEC settings are normally monitored only once every five years.

The state certification of universities stopped being valid in 2017. Instead, it is suggested that HEIs use international accreditation systems. Unaccredited institutions cannot issue official diplomas and cannot receive state sponsorship to train specialists. Between 1991 and 1994, the certification of higher education institutions was adopted and their requirements were approved between 1995 and 2000. In 2017, 101 civil universities out of 116 had passed international accreditation [iv].

Figure 5. Percentage of students in schools where the principal reported assessments of students, PISA 2015



Source: OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267510-en.

GOVERNANCE: A CENTRALISED EDUCATION SYSTEM

Kazakhstan has a centralised education system, with extensive central planning and a detailed system of norms. The Government plays an important role in the definition of education strategies and in the development of key initiatives. It may also directly develop and implement initiatives of special interest for the country (e.g. the Nazarbayev Intellectual Schools). Other actors involved in education at the national level in Kazakhstan include:

- The Ministry of Education and Science of the Republic of Kazakhstan (MESRK) is the competent central authority on education. The ministry is responsible for the implementation of education laws, as well as the strategic planning, management and funding, including the preparation of draft budgets, of the education system. The ministry also regulates a range of key issues, including: curriculum development, the educational plan and educational programmes, student assessment systems, and allocating and managing some financial resources (namely targeted transfers and republican budgets for specific programmes).
- Regions (Oblasts) are responsible for the delivery of education in schools, including vocational and professional schools and special and specialised schools. They also provide in-service teacher training and methodological, pedagogical, psychological and medical consulting services to schools. *Oblasts* organise the Olympiads and other student contests. They are also responsible for purchasing textbooks, maintaining school infrastructure, providing free and subsidised school meals for specific categories of students, and supporting orphan students. Until 2007, it was at the discretion of each *oblast* to transfer selected responsibilities on health, education or other social services to districts.
- Districts (Rayons) are mainly responsible at the local level for allocating and managing physical resources, determining class sizes and providing methodological support to schools. Other responsibilities include allocating textbooks and instructional materials, organising school Olympiads and other student contests at the local level, providing free meals to students and logistical support to schools.
- In the last 10 years, the ministry has also created several agencies and institutions involved in education, which are formally subordinated to the ministry (see recent policies).

Compared to OECD countries, Kazakh schools have lower levels of autonomy. Their responsibilities include allocating students in classes, developing strategies to support low performers, establishing a leadership team, and managing the teaching body. At the same time, school principals have a comparatively high autonomy to manage teacher resources, namely teacher recruitment, the allocation of teaching duties and teacher dismissal.

Kazakhstan has undertaken efforts to increase the level of stakeholder engagement as a way of improving the quality of education delivered in schools. For example, it recently established governing boards in schools, although their roles remain to be fully enforced (see recent policies).

Kazakhstan had 130 higher education institutions in 2017. After rapid growth of the number of private institutions since 2000, Kazakhstan has been making efforts to reduce this number, through for example, mergers or closures. Sustained efforts of over a decade have also been made to decentralise higher education, such as: transferring some attributions to governing boards (although the OECD has previously identified their role as remaining mostly advisory), or; conceding more formal autonomy in the design of academic programmes of study, as well as in organisational and financial matters. A 2017 OECD report had identified a need to strengthen further institutional autonomy, particularly in academic, organisational or financial terms. In response to these recommendations, Kazakhstan introduced new regulations to increase academic autonomy in 2018, whereby a university can open a programme if it receives a license on the subject. Additionally, regulations of the private and public sectors could be further streamlined, strategically differentiating their specific roles. Furthermore, achieving a good quality assurance system, which helps Kazakhstan raise standards and encourages institutional responsibility to lead improvement, will be key to strengthening the architecture of higher education governance.

Key strengths and challenges on governance	
Key strengths	**Key challenges**
▪ Multiple mechanisms are in place to monitor progress towards national objectives. ▪ Kazakhstan has undertaken some important efforts to increase transparency, with several agencies or local bodies created in recent years (e.g. boards of trustees).	▪ Wider consultation and articulation with key stakeholders needs to become effective to ensure the legitimacy and appropriation of policy development and planning processes. ▪ Continue strengthening transparency and accountability to prevent misallocation of resources or corruption.

Recent policies and practices

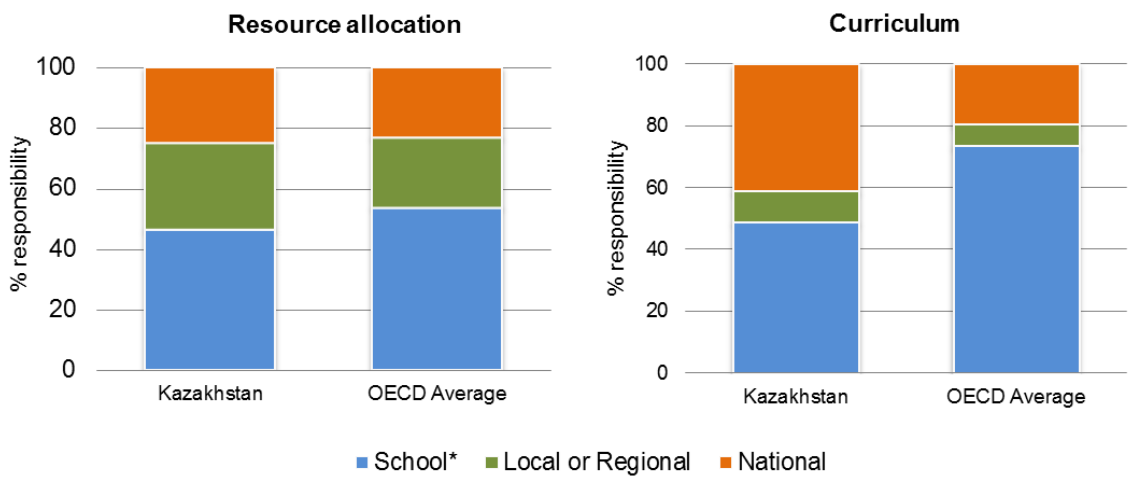
The Committee of Control in the Field of Education and Science and the regional offices (in the oblasts, Almaty and Astana) were created in 2011 to introduce an external school evaluation system. The committee has since become instrumental in identifying mismanagement in the system and promoting compliance with operational norms. Kazakhstan established advisory councils in 2012 at different levels (national, sectorial and regional), where employers are meant to play a central role in the development and establishment of good practices in vocational education and training.

At the school level, the creation of boards of trustees (in 2007) opens up avenues for improved transparency and reporting procedures at the school level. Comprised of parents, community representatives and other local leaders, these bodies have important formal functions, including participation in the design of school development strategies, appointment of key personnel, and oversight of the financial performance of schools. According to OECD evidence of 2015, only about half of schools had an established board of trustees, and in most their responsibilities were not yet fulfilled in practice and their role was unclear, with activities at that time consisting of providing assistance in the organisation of social and cultural events, similar to parent committees. In 2017, guidelines concerning the organisation of work of the board of trustees were established. These guidelines aimed to increase the scope of decisions taken by the boards, especially regarding strategic, financial and personnel decisions, and to clarify their assigned roles.

In 2018, the law on increasing HEIs' academic and organisational autonomy came into force. The law considers providing higher education institutions academic, organisational, and financial autonomy.

Governing boards (also known as boards of trustees, supervisory boards or boards of directors) were established in 2007 to support higher education institutions. Initially these bodies had no formal governance authority but represented a first step towards building a non-governmental body to advise higher education institutions. Additional guidelines established in 2012, 2015 and 2016 granted boards of trustees responsibility over the allocation of sponsorships, charitable assistance, and funds received from non-government sources, including the allocation of any net income the state permits an institution to retain, as well as more authority over the appointment of university rectors (during 2016-18, a total of 19 rectors of state universities were elected by boards of trustees on the basis of competitive selection). Boards of trustees may make proposals to the ministry on the participation of the state-owned institutions in other legal entities and on "other substantive matters". According to MESRK guidelines, boards are to be composed of education institutions stakeholders, employers and social partners, representatives of public organisations and foundations and sponsors. In 2018, over half of the universities in Kazakhstan (92 of 130) had established governing boards, and 28 state-owned universities had boards of trustees.

Figure 6. Percentage of decisions taken in public lower secondary schools at each level of government (2015)



Source: OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267510-en.

FUNDING: A NEED TO ADDRESS UNDER-INVESTMENT AND IMPROVE EQUITY AND TRANSPARENCY OF THE ALLOCATION OF FUNDS

As Kazakhstan's overall economy has expanded in recent years, public expenditure in education has gradually increased to 3.5% of GDP in 2017. In 2014, 70% of Kazakhstan's total expenditure on higher education came from private rather than public sources. By way of comparison, across all OECD countries in 2014, 30% of funding came from private sources. Public funds for higher education places are allocated to the student, rather than the institution; however, the majority of students (71% in 2017) fund their participation in higher education using their own or family funds, which can lead to inequity of access opportunities to higher education.

The Budget Law provides a description of the budgeting process and sets out the calendar for the formulation of the local, regional and national budgets. At the local level, *rayons* submit their budget proposal – which aggregates the budgets of all their schools – to *oblasts* at the regional level, which in turn submit consolidated budget proposals to the ministry at the national level. The process for budget formulation includes discussions at multiple forums, such as budget commissions, executive bodies and assemblies. However, projections may not always be accurate since the number of students, classes, or full-time equivalent teachers needed are defined later in the year. Furthermore, budget transparency could still be strengthened, as the majority of schools do not have their own budgets due to centralised accounting, and budget information is generally not disclosed to parents and the principal. At the national level, limited information and detail is disclosed on the government's budget and financial activities. MESRK has made efforts to increase transparency by creating an official website, and encouraging other educational institutions to do the same.

Although the largest disbursements for school education are made by local authorities, the areas in which they can exercise discretion in ensuring appropriate school resource levels are limited. According to OECD evidence, the large number of teachers and school leaders in Kazakhstan is driven by the significant proportion of small-class schools in the country, strict staffing norms and reductions in school budgets, which create rigidities and affect investments in other areas. In addition, poor physical infrastructure and an inadequate supply of educational resources could have adverse effects on learning outcomes. Chronic underinvestment in the maintenance and upgrading of schools has left many buildings in need of modernisation. In the school year 2017, 11.7% of schools were found to require a complete overhaul, and 0.6% were deemed to be in an emergency condition. The majority of schools requiring emergency repairs are in rural areas (84% in 2017). Recent policy efforts have focused on establishing resource centres to enhance the capacity of small-class schools, and supporting alternative boarding schools and transportation services. The implementation of the new funding model (2018) could help the system move towards a more efficient, transparent and equitable school funding scheme (see recent policies).

Previous OECD studies have noted that Kazakhstan's current focus on "excellence" may hamper widespread quality and equity, in particular given resource constraints in the country. In compulsory education, schools that cater to gifted students, such as the Nazarbayev Intellectual Schools (NIS), receive considerably higher levels of funding than mainstream schools. NIS currently enrol students at a unit cost of more than three times the national average. In higher education, substantial resources are devoted only to the Nazarbayev University.

Ensuring at least a minimum level of spending is necessary for ensuring good quality education provision, but how this spending is allocated is also important. A World Bank report showed that school resources contributed as much to Kazakhstan's improvement in PISA between 2009 and 2012 as the individual students' background characteristics. According to the OECD Review of School Resources, Kazakhstan could benefit from improving the efficiency of the use of public funds, as well as their transparency.

Key strengths and challenges of funding education system	
Key strengths	**Key challenges**
▪ Kazakhstan's new funding model aims to achieve improvements in how resources are allocated in schools. ▪ There have been some increases in education expenditure in recent years. ▪ The budget formulation process involves discussions with different key stakeholders.	▪ Kazakhstan needs to achieve better efficiency, transparency and equity of resource allocation in the system in order to cater to the different needs and realities of students at different levels of the system. ▪ Strengthening expenditure monitoring, along with the transparency and flexibility of the process are also some challenges for Kazakhstan.

Recent policies and practices

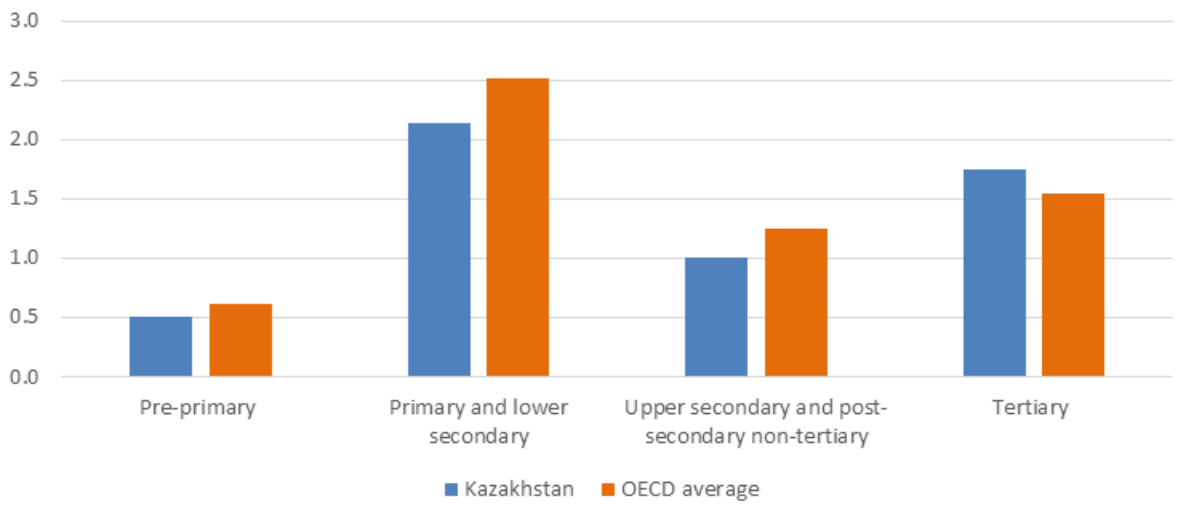
The new funding model (2018, envisaged for full implementation by 2020) aims to reduce staff costs, provide funds for school development and enhance transparency in the distribution of funds. It combines a per student formula with incremental costs through two main components related to education processes (salary costs, instructional materials and performance bonuses for staff) and education environments (utilities, maintenance costs, student meals, transportation and other expenses).

Under this new funding scheme, the bulk of expenditures (funds for education processes) will be determined at the central level and transferred from the ministry to schools, via the respective *oblast* and *rayon*, which implies a partial recentralisation of school finances. It is currently being piloted in 73 schools across Kazakhstan and will be implemented in another 85 public and private schools in 2020-2021. Once introduced, the new model will be applied to all schools, with the exception of small-class schools and specialised schools (e.g. correctional, advanced curricula, NIS). While the new model represents a positive step towards improving the efficiency, transparency and equity of the funding system, challenges identified include that it will limit flexibility to adjust allocations to the diversity of conditions in which schools operate. In addition, the model does not include a mechanism to address the differences between schools' theoretical and actual needs. To support the implementation of the new funding model in schools, Kazakhstan has introduced other changes, such as the creation of boards of trustees.

Kazakhstan has implemented several measures to progressively improve the salaries of the teaching profession. The Law of Kazakhstan on Education (2007) equated teachers of public schools with civil servants (*grazhdanskiye sluzhashiye*), and since 2008 they have also been provided with healthcare benefits. A new model of civil servant remuneration was implemented in 2016 that takes into account the level of education and qualification, as well as the degree of complexity of the job and the responsibility required. Estimates suggested that it would lead to a 29% average increase in the salaries of teachers. However, in practice the increase was equivalent to 19.3% for secondary teachers and 17.2% for primary school teachers between 2015 and 2016. The 2017 professional standards for teachers also aimed to decrease wage gaps and remove some barriers for career progression (see School Improvement).

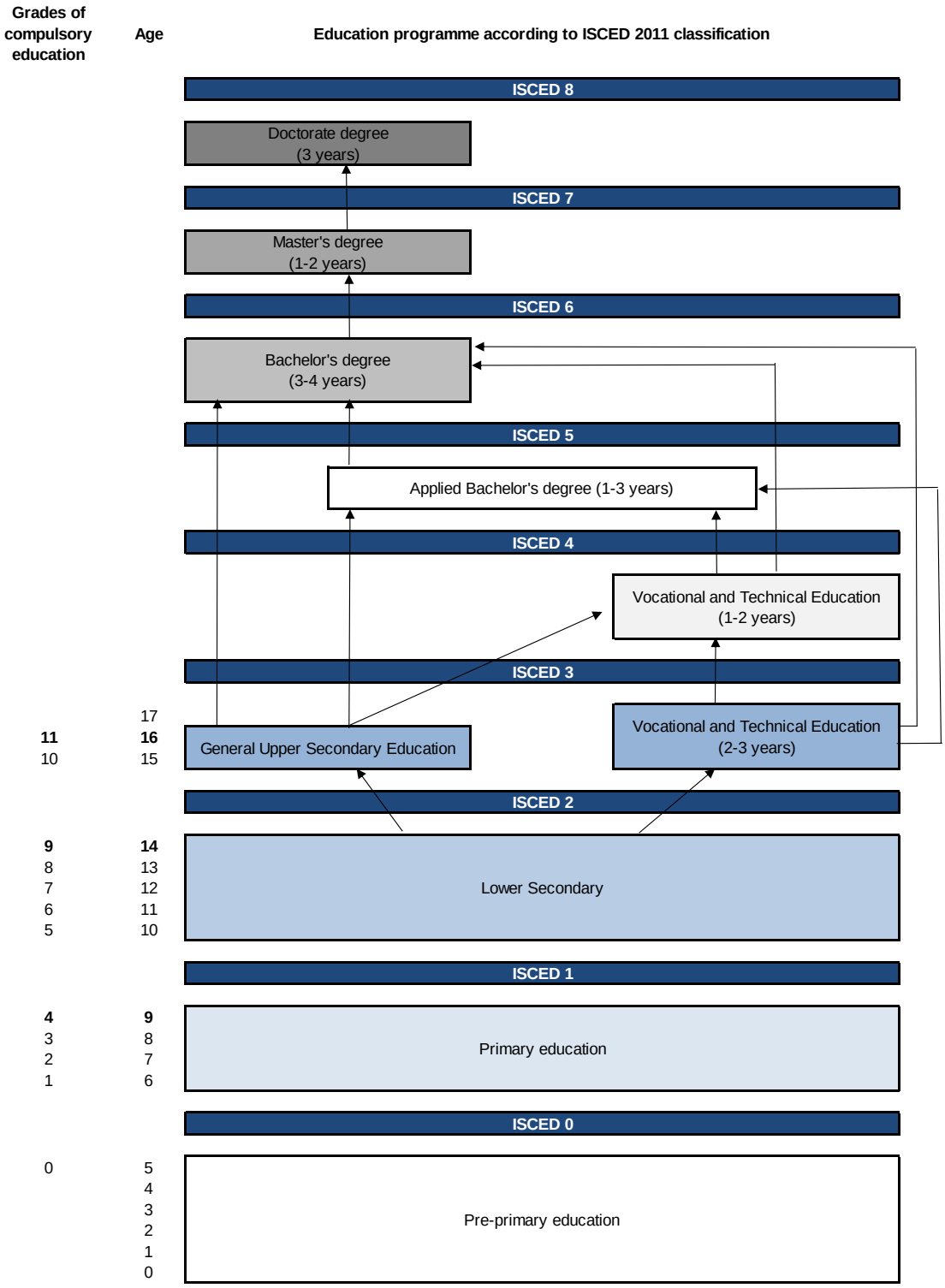
The National Report on the State and Development of the Education System of the Republic of Kazakhstan provides information on the use of financial resources and allocation efficiency to state institutions and the general public. Insights from these reports are used to develop strategic education goals.

Figure 7. Total expenditure on educational institutions as a percentage of GDP, by level of education (2015)



Sources: UNESCO Institute for Statistics database (accessed April 2018), http://data.uis.unesco.org/; OECD (2017), Education at a Glance: OECD Indicators, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2017-en.

ANNEX A: STRUCTURE OF KAZAKHSTAN'S EDUCATION SYSTEM



Notes: Students in grades/ages indicated in **bold** must take diagnostic tests or entrance examinations.

Source: OECD Education Policy Outlook team based on OECD (2017), Higher Education in Kazakhstan 2017, Reviews of National Policies for Education, OECD Publishing, Paris, https://doi.org/10.1787/9789264268531-en.

ANNEX B: STATISTICS

	List of key indicators	Kazakhstan	Average or total	Min	Max
	Background information				
Society					
1	Population aged less than 15 as a percentage of total population, World Bank database (2017) and OECD Statisitcs (2016)	28.0	18.6	13.1	29.6
	Education outcomes				
2	Mean performance in mathematics (PISA 2012)	432	494	368	613
3	***Educational attainment of the population aged 25 and over by type of attainment, 2009 (UNESCO database)***				
	At least upper secondary education	85.0			
	Tertiary education	22.7			
4	***Unemployment rates of 25-34 year-olds by educational attainment, 2016 (EAG 2017)***				
	Below upper secondary	NP	16.8%	3.5%	37.8%
	Upper secondary and post-secondary non-tertiary	NP	9.1%	4.2%	30.2%
	Tertiary education	NP	6.6%	2.5%	28.0%
	Students: Raising outcomes				
Policy lever 1: Equity and quality					
5	First age of selection in the education system (PISA 2015)	15	14	10	16
6	Percentage of students in schools where students are grouped by ability into different classes for all subjects, PISA 2015	15.9%	7.8%	0.0%	56.1%
7	Percentage of students whose parents reported that the schooling available in their area includes two or more other schools, PISA 2015	m	36.8%	20.4%	56.9%
8	Percentage of students reporting that they have repeated at least a grade in primary, lower secondary or upper secondary schools (PISA 2015)	1.9	11.3	0.0	68.5
9	Score differences between boys and girls in mathematics (PISA 2012)[4]	0	**11**	-21	25
Policy lever 2: Preparing students for the future					
10	Adjusted mean proficiency in literacy among adults aged 16-64 on a scale of 500 (Survey of Adult Skills, 2012)				
11	Difference in literacy scores between youngest (25-34) and oldest (55-65) adults (Survey of Adult Skills, 2012)				
12	***Share of students of all ages in upper secondary education in 2017 following***				
	General programmes (UNESCO database and EAG 2017)[5]	60%	55.6%	26.8%	100.0%
	Vocational programmes (UNESCO database and EAG 2017)[5]	39.7%	45.7%	8.3%	73.2%
13	First-time graduation rates from tertiary education (EAG 2017)	NP	49.1%	24.5%	76.1%
14	% of 18-24 year-olds not in education, employment or training, 2016 (EAG 2017)	NP	15.3%	5.2%	33.0%

#	List of key indicators	Kazakhstan	Average or total	Min	Max
Institutions: Improving schools					
Policy lever 3: School improvement					
15	***The Learning Environment - PISA 2015***				
	Mean index of disciplinary climate based on students' reports	0.93	0.00	-0.42	0.93
	Mean Index of Instructional leadership	0.72	0.27	-1.26	1.00
16	Percentage of teachers in lower secondary education above the age of 50, 2015 (EAG 2017)	NP	35.9%	17.5%	59.6%
17	***Number of teaching hours per year in public institutions by education level, 2015 (EAG 2017)***				
	Primary education	NP	794	573	1157
	Lower secondary education, general programmes	NP	704	486	1157
18	Ratio of actual teachers' salaries to earnings for full-time, full-year adult workers with tertiary education, lower secondary education, general programmes, 2015 (EAG 2017)	NP	0.88	0.58	1.30
19	Proportion of teachers who believe the teaching profession is valued in society (TALIS 2013)	NP	30.9%	4.0%	66.5%
20	Proportion of teachers who would become a teacher again if they could choose (TALIS 2013)	NP	77.6%	53.4%	95.5%
Policy lever 4: Evaluation and assessment to improve student outcomes					
21	***Percentage of schools whose principals reported regular occurrence of the following (PISA 2015):***				
	Internal/Self-evaluation	m	87.1	32.5	100.0
	External evaluation	m	63.2	5.7	91.4
22	***% of students whose school principals reported that assessments are used for the following purposes (PISA 2015)***				
	To make decisions about students' retention or promotion	76.8%	31.3%	3.4%	60.6%
	To monitor the school's progress from year to year	95.1%	69.4%	26.2%	97.7%
	To make judgements about teachers' effectiveness	89.4%	37.0%	4.4%	87.5%
	To identify aspects of instruction or the curriculum that could be improved	84.9%	58.9%	14.1%	92.4%
23	% of lower secondary education teachers reporting appraisal/feedback from the school principal on their work at least once per year (TALIS 2013)	NP	66.1%	11.2%	96.8%

#	List of key indicators	Kazakhstan	Average or total	Min	Max
Systems: Organising the system					
Policy lever 5: Governance					
24	***Distribution of responsibilities for school governance in resource allocation and curriculum, 2015 (PISA 2015)***				
	National government (Resource allocation)	24.9%	23.1%	0.0%	69.9%
	Local or Regional government (Resource allocation)	28.6%	23.1%	0.0%	72.9%
	School (Resource allocation)	46.5%	53.8%	11.2%	92.9%
	National government (Curriculum)	41.1%	19.6%	0.0%	96.5%
	Local or Regional government (Curriculum)	10.1%	7.0%	0.0%	42.2%
	School (Curriculum)	48.7%	73.4%	3.5%	97.0%
Policy lever 6: Funding					
25	***Relative proportions of public and private expenditure on educational institutions, 2014 (EAG 2017)***				
	Public sources	NP	84.6%	64.4%	99.0%
	All private sources	NP	15.4%	1.0%	35.6%
26	***Index of change in expenditure on educational institutions EAG 2017 (constant prices, 2010=100)***				
	Public sources	NP	103	86	147
	All private sources	NP	113	69	192

Notes
1. The average, total, minimums and maximums refer to OECD countries except in TALIS and the Survey of Adult Skills, where they refer to participating countries.
2. "m": included when data is not available.
3. "NP": included if the country is not participating in the study.
4. Statistically significant values of the indicator are shown in bold (PISA 2015 only).
5. EAG figures refer to the year of 2015, while UNESCO figures refer to the year of 2017.

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NOTES

i. Evidence from PISA 2012 for Kazakhstan is used in some sections of this country profile. In PISA 2015, the national coders for Kazakhstan were found to be lenient in marking. Consequently, the human-coded items did not meet the PISA standards and were excluded from the international data. Since human-coded items form an important part of the constructs that are tested by PISA, the exclusion of these items resulted in a significantly smaller coverage of the PISA test. As a result, Kazakhstan's PISA 2015 scores may not be comparable to those of other countries or to results for Kazakhstan from previous years. Nonetheless, Kazakhstan's participation in the Student and School Questionnaires was not affected by this issue. As such, information from these questionnaires is comparable to that of other countries and previous years and therefore it has been included in the Education Policy Outlook: Kazakhstan.

ii. Gross enrolment rates in higher education are defined as the ratio of the number of students (regardless of age) to the total population in the typical enrolment age range (e.g. 18-22 in many countries).

iii. A Stavka unit is defined as 18 hours of teaching a week and teachers are typically employed from 0.25 of a Stavka to 1.5 Stavkas, or in special circumstances for 2 Stavkas. Activities such as marking student work, classroom management, mentoring, among others are compensated separately.

iv. In Kazakhstan, in 2017, there were 116 civil universities, including 10 national, 1 international, 1 autonomous, 32 state, 17 joint-stock and 55 private institutions. In addition, there are 14 non-civil universities which focus primarily on preparing students in the field of military security. Such universities are not governed by the MERSK. Instead, they are governed by the Ministry of Internal Affairs, the Ministry of Defense, National Security Committee of the Republic of Kazakhstan or the Supreme Court of the Republic of Kazakhstan.

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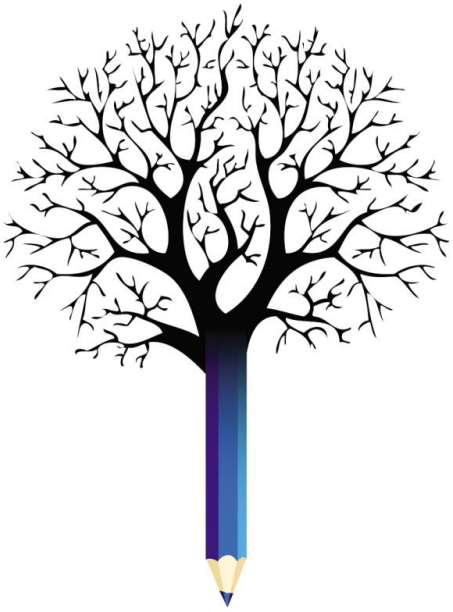

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