



## PISA 2018: Equity is the Cornerstone of Estonian Education System

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OECD PISA (Programme for International Student Assessment) tests 15-year-old students in three subjects: reading, maths, and science. The survey also collects background information from students and school principals about factors that influence learning. Cognitive test scores together with background questionnaires help to provide information about education systems, their equity in considering students with different backgrounds and how school organization relates to student performance.

PISA 2018 was implemented in 79 countries. In Estonia 5371 students (almost half of all 15-year olds) from 231 schools took part in the survey. On September 29, 2020 OECD released the fifth volume on PISA 2018 results which describes policies, school resources, stratification practices, quality assurance factors and trend changes since PISA 2000. Estonia participated in PISA for the first time in 2006, therefore we can see trends based on five survey cycles (2006, 2009, 2012, 2015 and 2018).

Estonian Basic school student performance is the highest in Europe in all three subjects- reading, mathematics, and science. Also, they are among the best in OECD and world rankings. Estonian students show stable and high performance.

PISA samples students according to strict sampling rules, therefore student sample is representative of each participating country. In the sampling process the stratification variables consider gender balance, proportions of urban and rural students, proportions of students with different language of instruction, etc. In the survey implementation process countries follow strict rules to guarantee that the results can be comparable.

### Main findings

Estonian education system provides **equal opportunities for young people to acquire basic (comprehensive) education**. Educational resources are distributed according to principles of **equity and justice**. This means that during the resource distribution process specific needs are considered. Students or areas that need more attention and support get more resources.

Estonian education policy focuses on providing **equal learning opportunities for all children**. Estonian education system reduces possibilities for dividing students according to socio economic background or some other characteristics. Pre-school is widely available for all children, most children start school at the age of seven, grade repetition is rather exceptional, student streaming in academic or vocational education tracks takes place when students are 16 years old and students with different abilities learn in the same class. Most students go municipal schools.

## 1. Education system has implemented measures that prevent social stratification.

- **Pre-school education is available to most children.** 95,9% of Estonian 15-year-olds report to have attended kindergarten. Two thirds of all students started kindergarten at the age of two or three. Kindergarten starting age does not differ between urban or rural students. Considerable share of students who study in Estonian medium schools reported that they started kindergarten at the age of one, a year earlier than their peers from Russian medium schools. Boys went kindergarten a bit later than girls. Children who started kindergarten at the age of four or younger came from more advantaged families than those children who went to kindergarten at the age of six or did not attend it at all. 13,7% of students in Estonia who did not go to kindergarten or went for only a short period time were from disadvantaged families.
- **Most children in Estonia start school at the age of seven.** In most countries the school starting age is six, whereas in Australia, Ireland, Malta, New Zealand, and Great Britain children start school at five. In 14 countries, including Estonia, school starting age is seven. Looking at Estonian school starting age there is a slight difference between Estonian and Russian medium school students. In 2010 as well as in 2019 one third (27,4%) of students with Russian language of instruction went to school at the age of 6. Only 14,3% of Estonian medium school children started school at that age.
- **Grade repetition in Estonia is rather exceptional.** Only 2,9% of students repeat a grade which is considerably lower than OECD average (11,4%). Students in rural schools repeat a grade a bit more often than their peers in urban areas (3,2% vs 2,2%), Estonian medium schools practice that more than Russian schools (2,8% vs 1,7%) and boys more often than girls (3,4% vs 1,8%). 64,7% of grade repeaters are boys. It is more likely that those who repeat a grade come from disadvantaged families.
- **Estonian students study according to a study programme based on basic school and upper secondary national curriculum and school curriculum. Student streaming into academic or vocational tracks takes place after the finishing of Basic school.** Countries that have more than one study programme, student attainment is lower. OECD notes that in countries where student streaming takes place before the end of compulsory education, there is lower reading performance and less equity.
- **In Estonia students with different abilities study together.** School and classroom model where students with different abilities study together is more effective. Student selection according to ability between classes or within class in all subjects do not result in better student performance. However, division of students in some classes can show positive impact. Compared to other countries Estonia is characterized by less selection between schools and classes, selection is more practiced in urban schools. Share of students who are selected in some subjects has increased to 55,5% which is significantly higher than in OECD countries (48,7%).

- ## 2. In countries where school resources are more evenly distributed, average student performance is also higher.
- Estonia is characterized by equal distribution of resources, however, in the country ranking according to the index of insufficient material resources it places slightly above the OECD average. In terms of the number of computers per student (1,1 computers per student), Estonia ranks from 9th to 12th place together with Canada, Hongkong and Sweden where the number of computers per student have increased the most. The share of computers with internet connection is slightly higher than the OECD average.

3. **We need more qualified teachers.** 43,6% of students study at schools where according to their principals there is teacher shortage. 81,1% of students study in schools with highly qualified teachers (OECD mean 81,8%). Estonian student performance was higher in advantaged schools where teachers work full time as opposed to disadvantaged schools where teachers work part time.
4. **Active teacher participation in in-service trainings is of utmost importance for the development of the society.** 62,1% of teachers participated in in-service trainings (OECD mean 52,9%). Teachers from advantaged schools were more active in participating in trainings (65%), than teachers from disadvantaged schools, the share was 7,1% lower.
5. **To achieve best learning outcomes, it is important to balance the distribution of lessons between STEM subjects, humanities, social and creative subjects.** Considering the time spent on learning, the best results are for those students who study their first language three to four times per week (OECD mean is 4 lessons), foreign language is four lessons, which is the same as the OECD mean. Advantaged schools have more foreign language lessons than disadvantaged schools.
6. **Estonian municipal schools have created good opportunities to acquire education.** Most of Estonian 15-year-olds (96,1%) study in municipal schools, the OECD mean is 81,9%. Private schools are smaller than municipal schools. The popularity of private schools in the world has increased, the same trend is observed also in Estonia. Students from municipal schools in Estonia show higher mean scores in reading than their peers from private schools. Schools offer extra-curricular activities; it is interesting to note that schools in Estonia offer more creative activities than on average in other OECD countries. This is not dependent on schools' background, ownership, or location.
7. **Evidence based school management is not yet fully adopted in Estonian schools.** The use of assessment results to improve the learning environment has rather decreased than increased. At the same time, such change could mean that schools pay more attention not only to learning outcomes, but also to other indicators that assess quality, such as student wellbeing, sense of belonging, bullying, etc. Quality assurance activities are carried out more in advantaged schools.
8. **Disclosure of student learning outcomes does not influence their test results.** 23,4% of Estonian students (OECD mean 28%) who participated in PISA studied in schools where student learning outcomes were posted publicly. In countries where student learning outcomes are posted publicly the results were better, the mean score was five points higher. This, however, was not true for Estonian schools. In those schools, where according to the principal the results were posted publicly, students scored one point lower.