

Chapter 12.

Innovation in various school-level practices

This chapter presents the change in a variety of school-level practices, aimed at students (ability grouping), teachers (incentives and hiring practices), and external stakeholders (for example parents). The change within countries is presented as an increase or decrease in the share of students exposed to the practice. The percentage point change is also expressed as a standardised effect size in the final table.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

72. Student grouping by ability into different classes

Why it matters

Ability grouping has little positive effect on academic achievement, and a significant negative effect on equity. Although parents, teachers, and school principals may find it convenient, it has become a controversial practice. While school principals' answers might just mirror the perceived social desirability of the practice rather than the practice itself, its decrease to low levels is welcome, assuming the ability grouping is not done at the school level or through other forms of tracking.

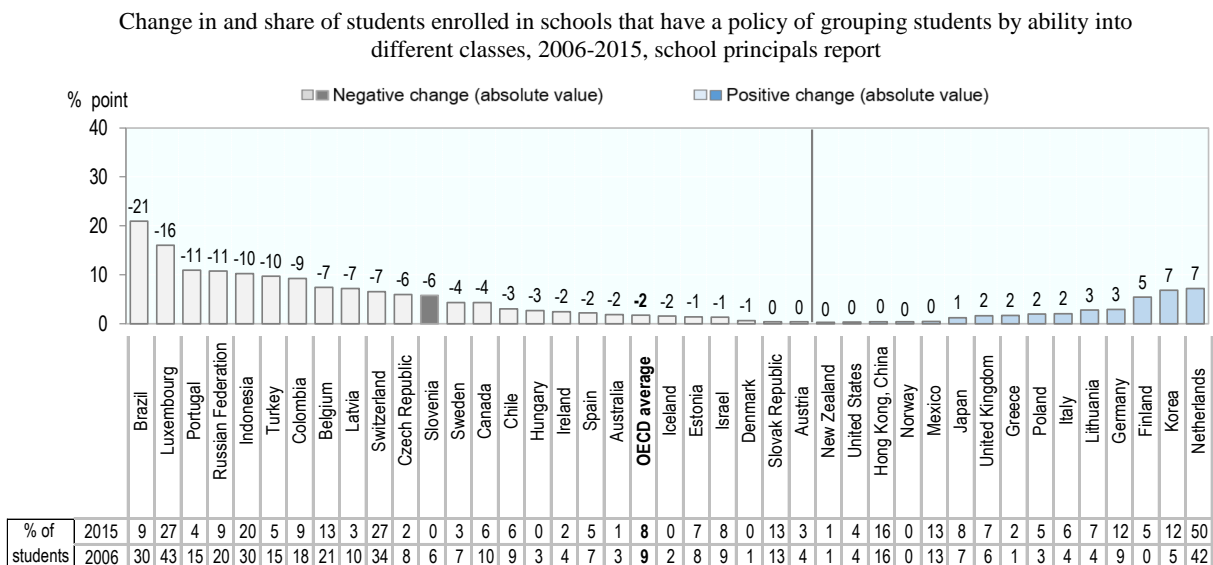
Change at the OECD level: small

OECD systems present changes in both directions, although the average net change in the use of this practice was a slight decrease of about 2 percentage points. The absolute change amounted to 4 percentage points on average, corresponding to a small effect size of 0.17. Grouping students by ability into different classes is uncommon in most OECD education systems. In 2015 for instance, almost no school reported following this policy in Slovenia, Iceland, Denmark, Norway or Hungary. The Netherlands is an exception to the rule 50% of students were enrolled in schools doing so in 2015.

Countries where there has been the most change

Between 2006 and 2015, Brazil and Luxembourg innovated by decreasing the use of this practice, the share of 15 year old students exposed to it reducing by more than 15 percentage points. Decreases also exceeded 10 percentage points in Portugal, the Russian Federation and Indonesia. No country in the sample experienced an increase in the use of this practice above 10 percentage points. Most countries experienced stability in this area.

Figure 12.1. 15 year old students grouped by ability into different classes



Note: Darker tones correspond to statistically significant values.

Source: Authors' calculations based on PISA Databases

StatLink <https://doi.org/10.1787/888933905626>

73. Student grouping by ability within classes

Why it matters

According to educational research, ability grouping has little positive effect on students' academic achievement, and a significant negative effect on equity. Teachers, parents, and even students themselves may however feel comfortable with it. There is a strong tradition of ability grouping, and its decrease to low levels of use is in principle welcome.

Change at the OECD level: small

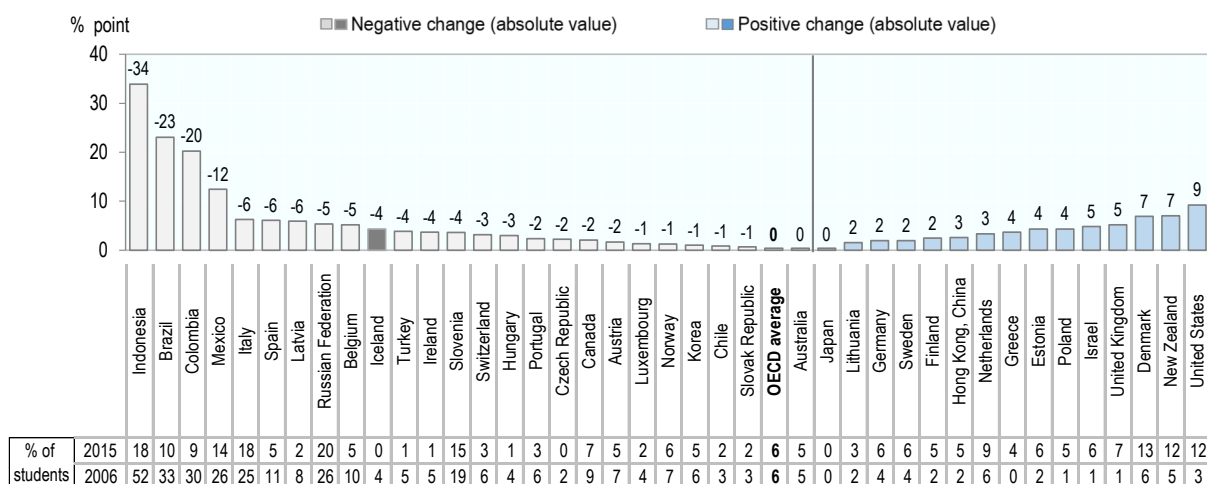
While contractions fully compensate expansions, on average the absolute change in the exposure of 15 year old students to this practice amounted to less than 4 percentage points for OECD countries, corresponding to a small effect size of 0.18. This practice is uncommon in the OECD countries covered: on average only 6% of 15 year old students were exposed to it in 2015 across all subjects.

Countries where there has been the most change

Innovation took mainly the form of substantial decreases in the use of this practice. The largest change was seen in Indonesia, where the proportion of 15 year old students being grouped by ability within their classes decreased by 34 percentage points in. Similarly, Brazil and Colombia experienced declines of over 20 percentage points. Expansions remained modest with no country registering an increase greater than 10 percentage points, but in most cases this represented a significant novelty and thus an innovation as starting points were very low.

Figure 12.2. 15 year old students grouped by ability within classes

Change in and share of students enrolled in schools that have a policy of grouping students by ability within classes, 2006-2015, school principals report



Note: Darker tones correspond to statistically significant values.

Source: Authors' calculations based on PISA Databases;

StatLink  <https://doi.org/10.1787/888933905645>

74. Tracking achievement data over time by an administrative authority

Why it matters

With the increased focus on learning outcomes over the past decade, most systems have put in place regular national or regional assessments that allow them to monitor the performance of their education. With the development of technology, and sometimes as part of their accountability policy or of a school choice agenda, achievement data are increasingly available at the school level. This helps support school improvement, provided other types of data on the school are also collected and used.

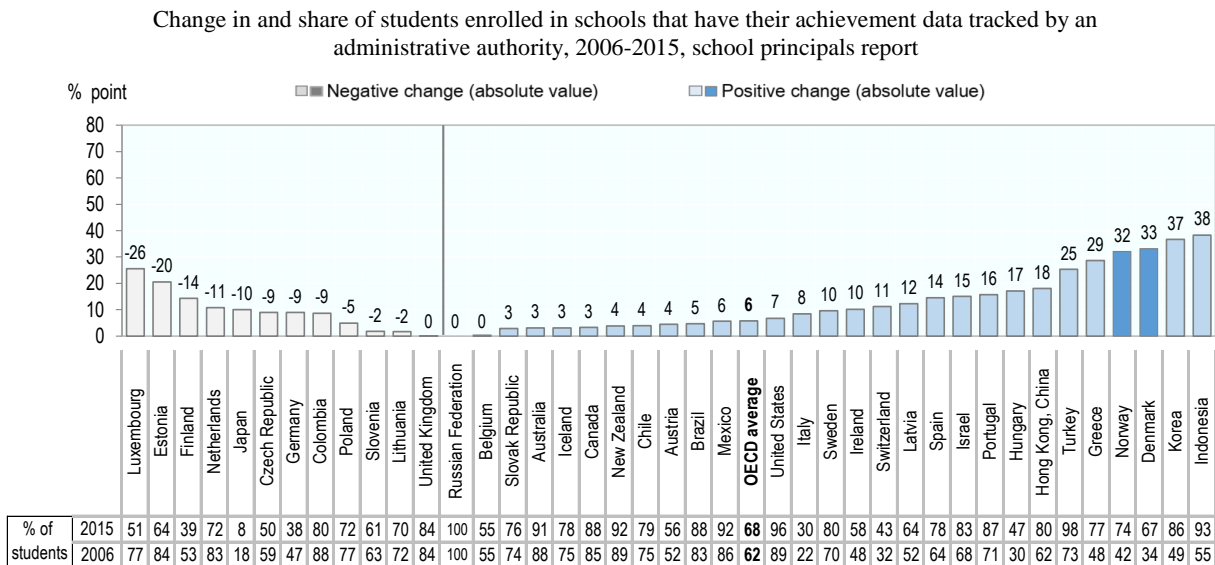
Change at the OECD level: moderate

Most OECD countries show greater use of this practice, which recorded an average net increase of 6 percentage points between 2006 and 2015. The average absolute change was 12 percentage points, corresponding to a moderate effect size of 0.27. Within OECD countries, on average 68% were enrolled in a school that have their achievement data tracked by an administrative authority, with a span ranging from 8% in Japan to 98% in Turkey in 2015. In the Russian Federation, this practice was universal both in 2006 and 2015.

Countries where there has been the most change

This practice expanded strongly in Indonesia, Korea, Denmark and Norway (over 30 percentage point increase in the share of 15 year old students concerned). Luxembourg and Estonia saw substantial falls of 26 and 20 percentage points respectively. In all these systems this was an innovation.

Figure 12.3. Tracking achievement data over time by an administrative authority for 15 year old students



Note: Darker tones correspond to statistically significant values.

Source: Authors' calculations based on PISA Databases

StatLink <https://doi.org/10.1787/888933905664>

75. Public posting of school achievement data (e.g. in the media)

Why it matters

With the increasing availability of learning outcome data at school level, it becomes increasingly common to provide information to the public about how schools are performing, at least in some specific areas. This allows for comparison and may provide incentives to schools to improve. It also allows families to know how their neighbourhood schools are doing (or provides them with information about where to enrol their children, provided such choice is possible in their context). Whether this reinforces inequalities or allows students from disadvantaged backgrounds to access better schools remains a heated debate.

Change at the OECD level: moderate

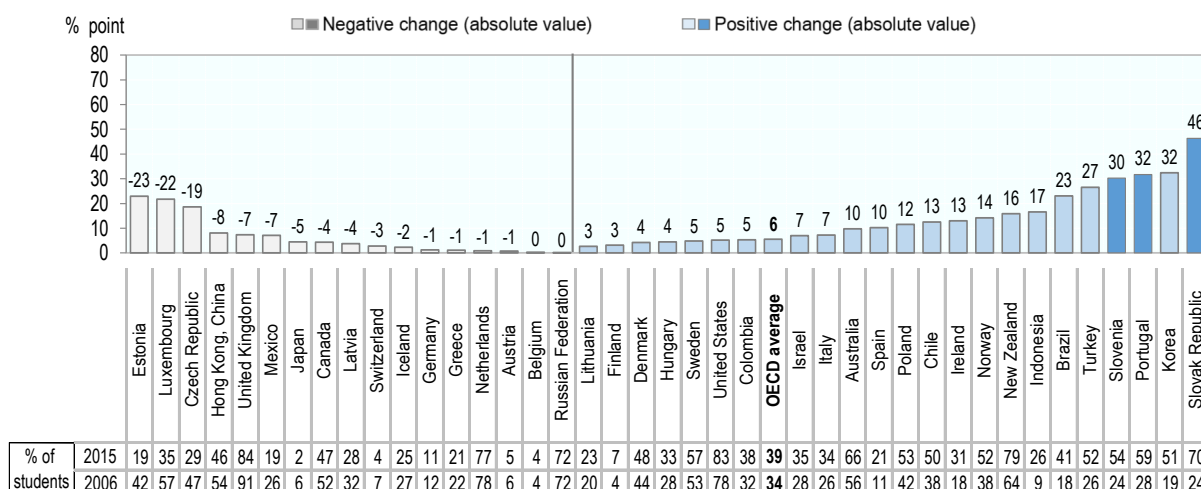
This practice has more spread than retracted in the past few years, leading to an average net increase of 6 percentage points in the share of students enrolled in schools posting achievement data publicly. Within the OECD area, the absolute change was 11 percentage points, corresponding to a moderate effect size of 0.25. Large differences exist in the use of this practice across education systems. For instance, only 2% of the 15 year old students were exposed to it in Japan compared to 84% in the United Kingdom.

Countries where there has been the most change

The Slovak Republic highly innovated by increasing the use of this practice: the share of secondary students enrolled in a school posting publicly its achievement data increased by 46 percentage points between 2006 and 2015. Korea, Portugal and Slovenia also experienced increases above 30 percentage points. On the contrary, substantial decreases in the use of this public posting were experienced in Estonia (23 percentage points), Luxembourg (22 percentage points) and the Czech Republic (19 percentage points).

Figure 12.4. Public posting of school achievement data for 15 year old students

Change in and share of students enrolled in schools posting achievement data publicly, 2006-2015, school principals report



Note: Darker tones correspond to statistically significant values.

Source: Authors' calculations based on PISA Databases

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76. Incentives to recruit or retain 8th grade teachers

Why it matters

Attracting quality teachers and retaining them so that they can contribute to a professional learning community at the school level is an important policy objective. Depending on the countries, these incentives may come from other levels than the school (e.g. local, regional or even national education authority), so changes in this practice may reflect broader changes than just school practices.

Mathematics

Change at the OECD level: small

The average net change in the use of this practice was slightly negative in the OECD area. Between 2007 and 2015, the share of 15 year old students enrolled in schools with this incentive policy for mathematics teachers decreased by 2 percentage points on average. The use of this practice remained stable during this time period, the absolute change only amounting to 4 percentage points, corresponding to a small effect size of 0.15. In 2015, secondary schools in OECD systems rarely have incentives in place to recruit or retain 8th grade mathematics teachers. On average, only 8% of secondary students were enrolled in schools having such policy.

Countries where there has been the most change

This was mainly an area of stability. Change occurred in both directions albeit it was generally of small magnitude. The largest changes in this school practice were recorded in Singapore, with an increase of 16 percentage points between 2007 and 2015, and in Indonesia with a fall of the same magnitude between 2007 and 2011. Decreases over 10 percentage points in the use of this policy incentive occurred in Lithuania and Turkey, which also experienced innovation in this area.

Science

Change at the OECD level: small

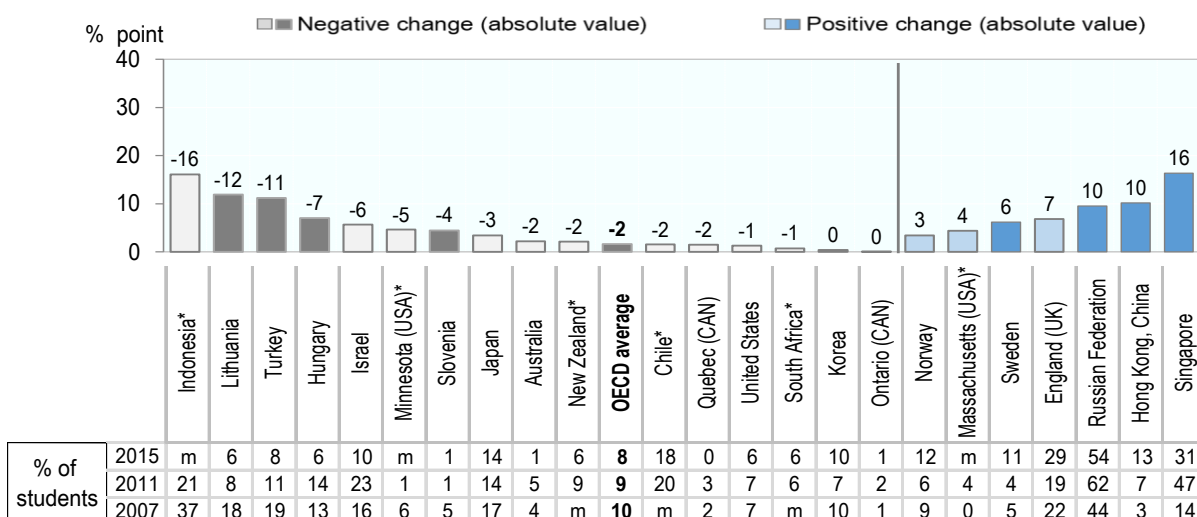
Between 2007 and 2015, this school practice decreased on average by 1 percentage point in OECD systems. The positive and negative variations together amounted to an average absolute change of 3 percentage points, corresponding to a small effect size of 0.15. In line with the situation for 8th grade maths teachers, this incentive policy for 8th grade science teachers is rather unusual in secondary schools in OECD countries.

Countries where there has been the most change

Singapore saw (again) the largest increase in the use of this practice (16 percentage points), followed by the Russian Federation and Hong Kong, China (increases by 11 and 10 percentage points). This incentive policy lost ground in Lithuania and Turkey, with decreases of 12 and 13 percentage points respectively between 2007 and 2015. Indonesia exhibited as well a notable decrease of 18 percentage points between 2007 and 2011.

Figure 12.5. Incentives to recruit or retain 8th grade maths teachers

Change in and share of 8th grade students enrolled in schools that use incentives to recruit or retain 8th grade teachers, 2007-2015, school principal reports

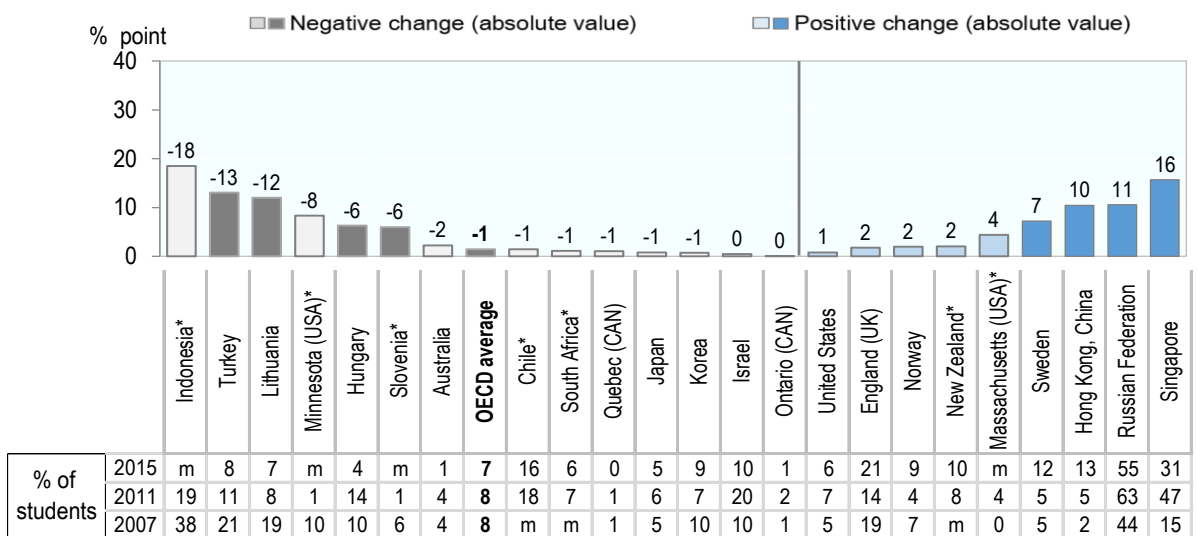


Note: Darker tones correspond to statistically significant values;
 * refers to calculations based on other years, based on data availability.
 The OECD average is based on OECD countries with available data in 2007, 2011 and 2015.
 Source: Authors' calculations based on TIMSS Databases.

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Figure 12.6. Incentives to recruit or retain 8th grade science teachers

Change in and share of 8th grade students enrolled in schools that use incentives to recruit or retain 8th grade teachers, 2007-2015, school principals report



Note: Darker tones correspond to statistically significant values;
 * refers to calculations based on other years, based on data availability.
 The OECD average is based on OECD countries with available data in 2007, 2011 and 2015.
 Source: Authors' calculations based on TIMSS Databases.

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Other subjects than Mathematics and Science

Change at the OECD level: small

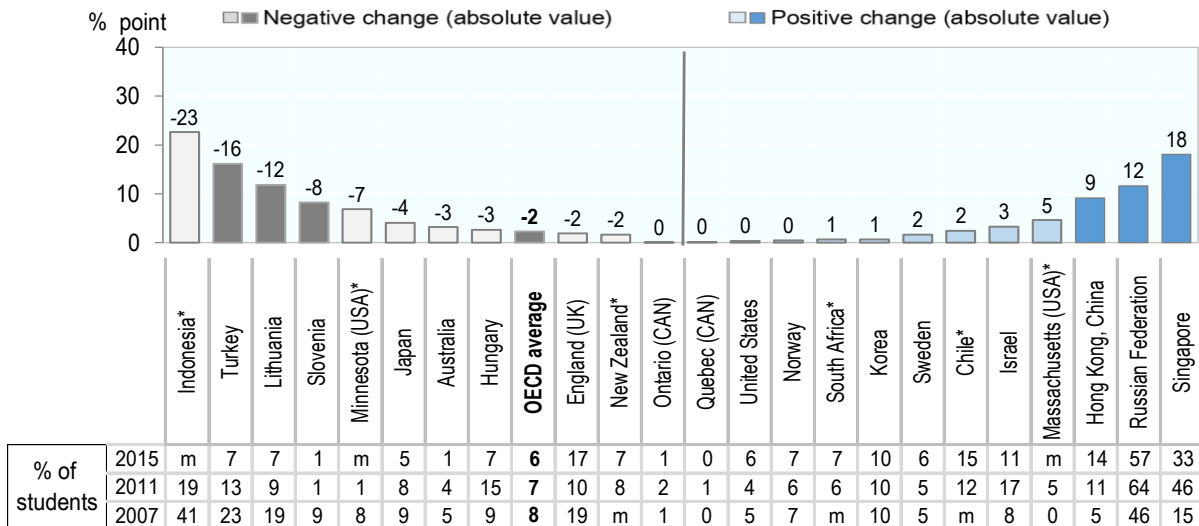
This school incentive policy to recruit and retain secondary teachers has more often lost than gained ground, resulting in an average net decrease of 2 percentage points for OECD systems. The average absolute change was 3 percentage points, corresponding to a small effect size of 0.13. At the OECD level, on average 6% of 8th grade students were enrolled in schools with an incentive policy to hire or retain teachers teaching subjects other than maths and science. The levels are similar for all subjects.

Countries where there has been the most change

Innovation took the form of increases and decreases in the use of this practice, which remained overall very stable. In Singapore and the Russian Federation, the practice spread with 18 and 12 more students in hundred enrolled in schools with such human resource policy. On the other hand, Indonesia experienced a considerable decline of 23 percentage points in this practice between 2007 and 2011.

Figure 12.7. Incentives to recruit and retain 8th grade teachers besides maths and science

Change in and share of students enrolled in schools that use incentives to recruit or retain 8th grade teachers for subjects other than mathematics or science, 2007-2015, school principal reports



Note: Darker tones correspond to statistically significant values;

* refers to calculations based on other years, based on data availability.

The OECD average is based on OECD countries with available data in 2007, 2011 and 2015.

Source: Authors' calculations based on TIMSS Databases.

StatLink <https://doi.org/10.1787/888933905740>

77. Degree of parental involvement

Why it matters

Parents play a key role in the successful school education of their children. Their involvement in school activities eases a constructive dialogue with school teachers and administrators, and a more personalised education and learning path for their children. Parents' continuous interest in their children's school life and learning contributes to better results.

Primary education

Change at the OECD level: small

At the OECD level, decreases and increases have compensated each other, hiding some variations as the absolute change in the share of 15 year old students with high levels of parental involvement in school activities was 7 percentage points on average between 2007 and 2015. This translates into a small effect size of 0.15. In 2015, the proportion of 4th grade students whose schools reported high degrees of parental engagement ranged from 14% in the Czech Republic to 66% in Quebec (Canada), with an OECD mean at 36%.

Countries where there has been the most change

Parental involvement in 4th grade education significantly increased in Quebec (Canada), between 2007 and 2015, as well as in Spain and Poland between 2011 and 2015, all three recording increases above 22 percentage points in this domain. These increases contrast with significant decreases in Denmark, Australia and Ontario (Canada) (19, 14 and 13 percentage points respectively).

Secondary education

Change at the OECD level: moderate

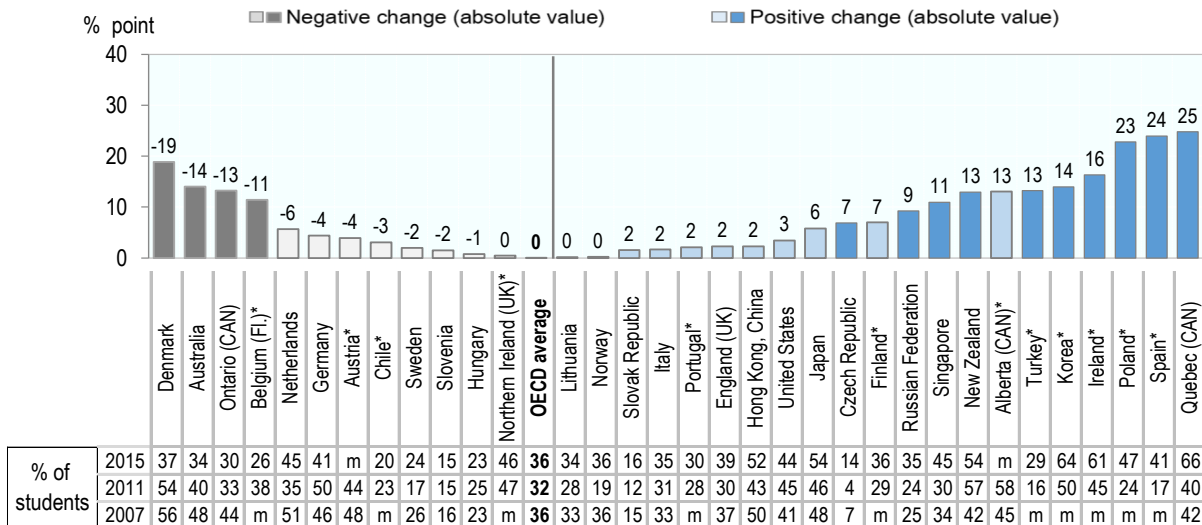
At the secondary level, most OECD countries covered have experienced an increase of parental involvement in students' education. Between 2007 and 2015, the percentage of 8th grade students enrolled in schools with high or very high parental involvement in school activities increased by 7 percentage points on average. Considering both positive and negative variations, the average absolute change was 11 percentage points, corresponding to a moderate effect size of 0.26. On average, only 30% of 8th grade students were enrolled in schools reporting high degrees of parental engagement in 2015, ranging from 62% in Korea to 12% in Slovenia.

Countries where there has been the most change

Like in primary education, Quebec (Canada) experienced the most innovation in this domain with an increase by 35 percentage points in the share of secondary students enrolled in schools where parents are highly involved in school activities. England (United Kingdom) and Korea also experienced large increases around 25 percentage points. Where parental involvement lost ground, only in Quebec (Canada) it decreased by over 10 percentage points.

Figure 12.8. Parental involvement in 4th grade school activities

Change in and share of students enrolled in schools with high or very high levels of parental involvement in school activities, 2007-2015, school principals report

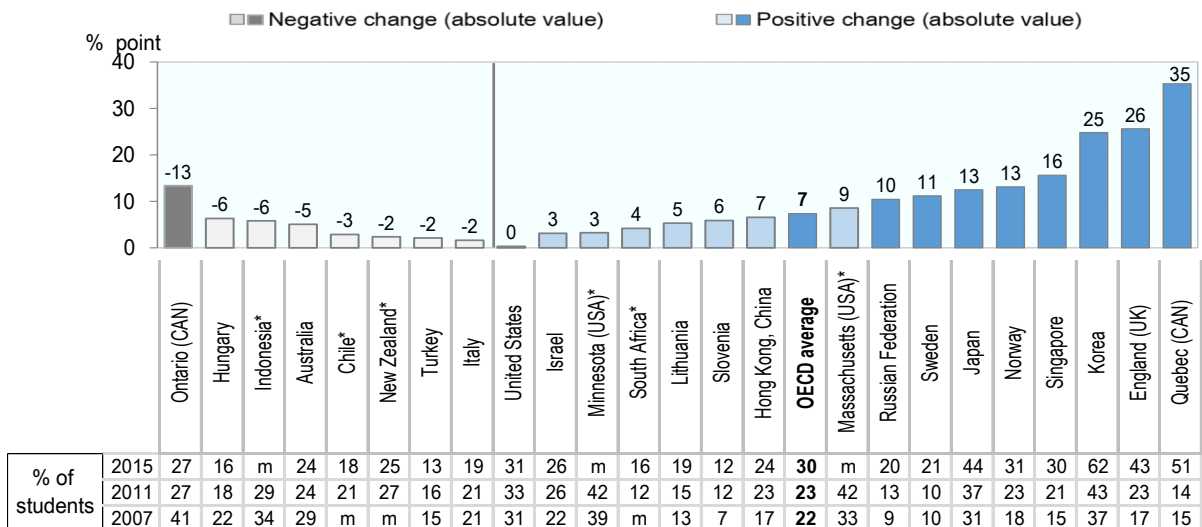


Note: Darker tones correspond to statistically significant values;
 * refers to calculations based on other years, based on data availability.
 The OECD average is based on OECD countries with available data in 2007, 2011 and 2015.
 Source: Authors' calculations based on TIMSS Databases.

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Figure 12.9. Parental involvement in 8th grade school activities

Change in and share of students enrolled in schools with high or very high levels of parental involvement in school activities, 2007-2015, school principals report



Note: Darker tones correspond to statistically significant values;
 * refers to calculations based on other years, based on data availability.
 The OECD average is based on OECD countries with available data in 2007, 2011 and 2015.
 Source: Authors' calculations based on TIMSS Databases.

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Table 12.1. Effect sizes for changes in school practices

	Student grouping by ability into different classes	Student grouping by ability within classes	Incentives to recruit or retain 8th grade teachers			Degree of parental involvement in school activities		Tracking achievement data by an administrative authority	Public posting of school achievement data
	8th grade	8th grade	8th grade Math	8th grade Science	8th grade Other	4th grade	8th grade	8th grade	8th grade
Australia	-0.13	-0.02	-0.14	-0.14	-0.19	-0.29	-0.12	0.10	0.20
Austria	-0.02	-0.07	m	m	m	-0.08	m	0.09	-0.03
Belgium	-0.20	-0.20	m	m	m	m	m	0.00	-0.02
Belgium (Fl.)	m	m	m	m	m	-0.25	m	m	m
Canada	-0.16	-0.08	m	m	m	m	m	0.10	-0.09
Canada (Alberta)	m	m	m	m	m	0.26	m	m	m
Canada (Ontario)	m	m	0.00	0.00	-0.01	-0.28	-0.28	m	m
Canada (Quebec)	m	m	-0.16	-0.12	0.03	0.50	0.78	m	m
Chile	-0.12	-0.05	-0.04	-0.04	0.07	-0.07	-0.07	0.09	0.25
Czech Republic	-0.28	-0.22	m	m	m	0.23	m	-0.18	-0.39
Denmark	-0.09	0.24	m	m	m	-0.38	m	0.68	0.09
Estonia	-0.05	0.23	m	m	m	m	m	-0.47	-0.51
Finland	0.47	0.14	m	m	m	0.15	m	-0.29	0.14
Germany	0.10	0.09	m	m	m	-0.09	m	-0.18	-0.04
Greece	0.15	0.39	m	m	m	m	m	0.60	-0.03
Hungary	-0.33	-0.21	-0.24	-0.25	-0.10	-0.02	-0.16	0.35	0.10
Iceland	-0.25	-0.42	m	m	m	m	m	0.07	-0.05
Ireland	-0.15	-0.22	m	m	m	0.33	m	0.20	0.30
Israel	-0.05	0.27	-0.17	-0.01	0.11	m	0.07	0.35	0.15
Italy	0.10	-0.15	m	m	m	0.04	-0.04	0.19	0.16
Japan	0.05	0.12	-0.10	-0.04	-0.16	0.12	0.26	-0.30	-0.24
Korea	0.26	-0.04	-0.01	-0.02	0.02	0.28	0.50	0.82	0.70
Latvia	-0.31	-0.29	m	m	m	m	m	0.25	-0.08
Lithuania	0.12	0.10	-0.38	-0.37	-0.37	0.00	0.15	-0.04	0.07
Luxembourg	-0.34	-0.08	m	m	m	m	m	-0.54	-0.44
Mexico	0.01	-0.31	m	m	m	m	m	0.18	-0.17
Netherlands	0.14	0.13	m	m	m	-0.11	m	-0.26	-0.02
New Zealand	0.03	0.26	-0.08	0.07	-0.06	0.26	-0.06	0.13	0.36
Norway	0.13	-0.05	0.11	0.07	0.02	0.00	0.31	0.66	0.29
Poland	0.10	0.27	m	m	m	0.48	m	-0.11	0.23
Portugal	-0.39	-0.11	m	m	m	0.05	m	0.39	0.65
Slovak Republic	-0.01	-0.04	m	m	m	0.04	m	0.06	0.97
Slovenia	-0.38	-0.10	-0.28	-0.49	-0.43	-0.04	0.20	-0.04	0.63
Spain	-0.10	-0.23	m	m	m	0.54	m	0.32	0.28
Sweden	-0.21	0.09	0.23	0.26	0.07	-0.05	0.32	0.22	0.10
Switzerland	-0.14	-0.16	m	m	m	m	m	0.23	-0.12
Turkey	-0.33	-0.22	-0.34	-0.38	-0.47	0.32	-0.06	0.81	0.55
United Kingdom	0.07	0.28	m	m	m	m	m	0.00	-0.22

	Student grouping by ability into different classes	Student grouping by ability within classes	Incentives to recruit or retain 8th grade teachers			Degree of parental involvement in school activities		Tracking achievement data by an administrative authority	Public posting of school achievement data
	8th grade	8th grade	8th grade Math	8th grade Science	8th grade Other	4th grade	8th grade	8th grade	8th grade
U.K. (England)	m	m	0.16	0.04	-0.05	0.05	0.57	m	m
U.K. (Northern Ireland)	m	m	m	m	m	-0.01	m	m	m
United States	0.02	0.38	-0.05	0.03	0.01	0.07	0.01	0.26	0.13
US (Massachusetts)	m	m	0.42	0.42	0.43	m	0.18	m	m
US (Minnesota)	m	m	-0.26	-0.39	-0.34	m	0.07	m	m
OECD (average)	-0.06	-0.02	-0.06	-0.06	-0.09	0.00	0.17	0.12	0.11
OECD (av. absolute)	0.17	0.18	0.15	0.15	0.13	0.15	0.26	0.27	0.25
Brazil	-0.55	-0.58	m	m	m	m	m	0.13	0.51
Colombia	-0.28	-0.53	m	m	m	m	m	-0.24	0.11
Hong Kong, China	0.01	0.15	0.39	0.43	0.32	0.05	0.16	0.40	-0.16
Indonesia	-0.24	-0.73	-0.36	-0.41	-0.50	m	-0.13	0.94	0.45
Russian Federation	-0.31	-0.13	0.19	0.21	0.23	0.20	0.30	0.00	0.00
Singapore	m	m	0.40	0.38	0.43	0.22	0.38	m	m
South Africa	m	m	-0.03	-0.05	0.03	m	0.12	m	m

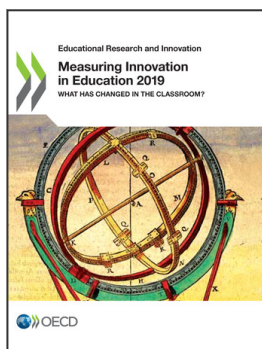
Effect size from -0.5 to -0.2 and from 0.2 and 0.5

Effect size from -0.8 to -0.5 and from 0.5 and 0.8

Effect size equals or less than -0.8 and equals or greater than 0.8

Source: Authors' calculations based on TIMSS (2007, 2011 and 2015) and PISA (2006 and 2015).

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