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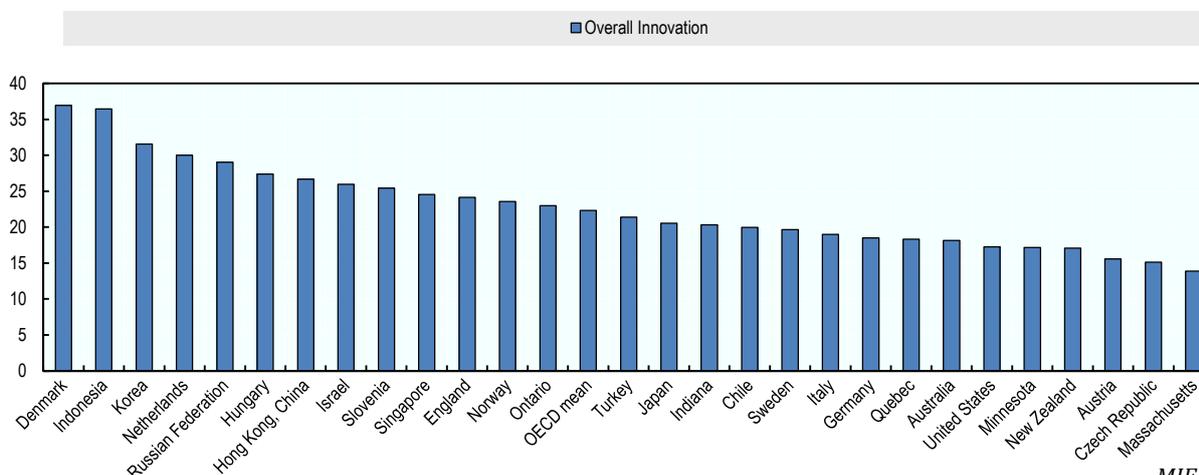
The purpose of the *Measuring Innovation in Education* report

The ability to measure innovation is essential to an improvement strategy in education. Knowing whether, and how much, practices are changing within classrooms and educational organisations, how teachers develop and use their pedagogical resources, and to what extent change can be linked to improvements would provide a substantial increase in the international education knowledge base.

The OECD *Measuring Innovation in Education* report offers new perspectives to address this need for measurement in educational innovation through a comparison of innovation in education to innovation in other sectors, identification of specific innovations across educational systems, and construction of metrics to examine the relationship between educational innovation and changes in educational outcomes. This country brief provides a short overview of the key findings of the report, as well as the top five pedagogic and organisational innovations in the Netherlands identified by this report.

Key findings on innovation in education – did you know?

Overall composite innovation index, 2000-2011



MIE Figure 17.1

- In education, innovation can take place through either significant changes in the use of a particular educational practice or the emergence of new practices in an educational system.
- Contrary to common belief, there is a fair level of innovation in the education sector, both relative to other sectors and in absolute terms.
- Within education, innovation intensity is greatest in higher education, with secondary and primary education approximately equal.
- Compared to other sectors, knowledge and method innovation is above average in education, product and service innovation is below average, and technology innovation is at the average sectorial level.
- In Europe, higher education stands out in terms of speed of adopting innovation compared to the economy average as well as the rates in primary and secondary education.

- There have been large increases in innovative pedagogic practices across all countries studied for this report in areas such as relating lessons to real life, higher order skills, data and text interpretation and personalisation of teaching.
- In their pedagogic practice, educators have innovated in their use of assessments and in the accessibility and use of support resources for instruction.
- Educational organisations have innovated in the areas of special education, creation of professional learning communities for teachers, evaluation and analytics and relationship building with external stakeholders, such as parents.
- In general, countries with greater levels of innovation see increases in certain educational outcomes, including higher (and improving) 8th grade mathematics performance, more equitable learning outcomes across ability and more satisfied teachers.
- Innovative educational systems generally have higher expenditures than non-innovative systems; however, their students are no more satisfied than those in less innovative systems.

Approach to measuring system innovations

While *Measuring Innovation in Education* identifies and analyses hundreds of innovations at the classroom and organisational levels, this brief identifies the top five Dutch innovations in pedagogic and organisational practices between 2003 and 2011. To determine each educational system's top five innovations in pedagogic and organisational practices, data from three international education datasets – Trends in International Mathematics and Science Study (TIMSS), Progress in International Reading Literacy Study (PIRLS), and the Programme on International Student Assessment (PISA) – were analysed to identify the areas in which each education system has demonstrated emerging or changing organisational and pedagogic practices over a specific period. For a full description of the data and methods used for analysis in this report, see report Annex A: Data Sources and Methods.

Please cite this publication as: OECD (2014), *Measuring Innovation in Education: A New Perspective*, Educational Research and Innovation, OECD Publishing. <http://dx.doi.org/10.1787/9789264215696-en>

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Note regarding data from Israel

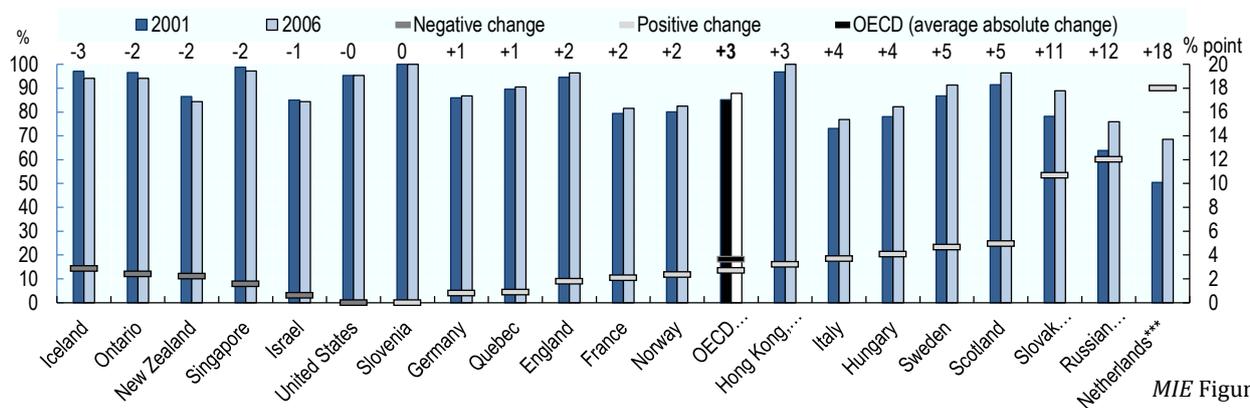
The statistical data for Israel are supplied by and are under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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The Netherlands' top five innovations in organisational policy and practice:

(1) More primary-level enrichment education in reading...

Percentage of 4th grade students in schools that offer informal initiatives to encourage students to read and change over time



MIE Figure 12.10

One of the top innovations in Dutch primary schools is the increased provision of informal initiatives to encourage primary school students to read. Between 2001 and 2006, the percentage of 4th grade students in the Netherlands enrolled in schools that offer informal initiatives to encourage students to read increased by 18% points, the largest gain of any educational system analysed in this report.

(2) More external evaluation of primary school classrooms...

Dutch primary schools underwent frequent observations of teachers' practices by inspectors or other persons external to the school. Between 2003 and 2011, the Netherlands saw a 15% point difference in the percentage of 4th grade students in schools in which observations by external evaluators were used to evaluate the practices of their teachers.

(3) More use of incentives for primary school teachers...

In primary education, another major innovation was an increase in the use of incentives to promote teacher retention in schools. In 2003, the primary education system in the Netherlands did not use incentives to recruit or retain teachers; by 2007, however, the percentage of students in schools using such incentive structures had risen to 2% for 4th grade students.

(4) More peer evaluation of teachers in primary education...

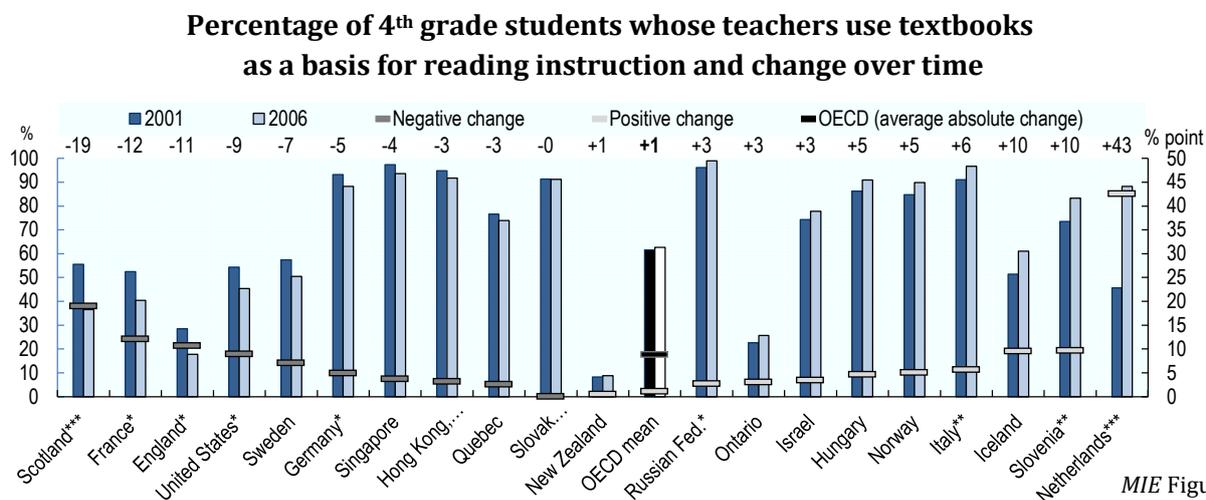
Another top organisational innovation in Dutch primary schools was the increased use of teacher peer review. The Netherlands saw changes in peer review evaluation of teacher practices in 4th grade classrooms, with an increase of 8% points in the percentage of students in schools with peer review evaluations between 2003 and 2011. This observed difference is slightly greater than the mean change in this metric across all OECD countries, which was 6% points over the same period.

(5) More use of assessment data in secondary education...

Finally, the Dutch education system experienced innovation in the use of assessments to make judgements regarding teacher effectiveness, with an increase of 9% points in the percentage of 15-year olds enrolled in schools where assessment data are used to make judgements about teachers' effectiveness between 2003 and 2009. From 2006 to 2009, the Netherlands saw a small increase in the use of achievement data to evaluate principal performance (+3% point) and a small decrease in the use of achievement data to evaluate teacher performance (-2% points).

The Netherlands' top five innovations in pedagogic practice:

(1) More use of textbooks as primary resources in primary school reading...



MIE Figure 8.5

The Netherlands' top pedagogic innovation was the increased use of textbooks as primary resources in 4th grade reading instruction. Between 2001 and 2006, the percentage of Dutch 4th grade students whose teachers use textbooks as a basis for mathematics instruction increased by 43% points. These changes are the largest of any educational system analysed for this metric; the OECD average change over the same period was a 1% point increase.

(2) More use of explanation in primary and secondary science lessons...

Teachers in the Netherlands reported significant increases in the extent to which students explain what they are studying during primary science lessons. Between 2003 and 2011, the percentage of 4th grade students whose science teachers ask them to explain what they are studying in their lessons rose from 67.9% to 86.3%; over this same period, the mean OECD value of this metric increased from 76.5% to 88.8%.

(3) More Internet availability in primary science classrooms...

The Netherlands also saw innovation in the availability of the Internet in primary science classrooms. Between 2003 and 2011, the percentage of 4th grade science students in the Netherlands with Internet access in their classrooms increased by 28% points, the second-largest positive change in this metric of any educational system analysed in this report.

(4) More use of computers in primary science classrooms...

Another Dutch pedagogic innovation is the use of computers as resources in 4th grade science instruction. Between 2003 and 2011, the percentage of Dutch 4th grade students using computers to look up ideas and information in their science classes increased by 27% points. This absolute change was the largest in this metric of any educational system analysed in this report.

(5) More use of computers in primary school reading lessons...

Finally, teachers in the Netherlands reported significant increases in the extent to which primary school students use computers as reading resources. Between 2001 and 2006, the percentage of Dutch 4th grade students who use computers to read stories or other texts one or more times per week rose from 5.7% to 24.6%, the second largest gain in this metric of any educational system included in this report. The educational system of Hong Kong, China had the largest gain in this metric, with the percentage of students increasing by a total of 38.6% points, from 2.8% to 41.6%.