United States 25
OECD average 30

Education Innovation Index

Innovation in education by category

Primary	26	31
Secondary	24	30
Maths	30	35
Science	26	29
Reading	21	27

Innovation in education by type of practice

Independent knowledge acquisition	47	0 / 47,3	-6,7 / 34,6	41
Teachers' peer learning	39	0 / 39,1	-1,2 / 40,8	42
Active learning practices in science	31	-1,2 / 29,3	-2,1 / 25,9	28
School learning resources	29	-25,7 / 2,8	-22,6 / 9,8	32
Homework	23	-11,1 / 12,2	-7,3 / 28,4	36
Fostering higher order skills	20	-4,4 / 15,5	-3,3 / 20,7	24
Assessment	20	-2,6 / 16,9	-9,3 / 16,9	26
Rote learning	20	-2,3 / 17,4	-3,2 / 28,3	32
Formal teacher training	12	-6,6 / 5	-17,2 / 6,4	24
School external relations and HRM	10	-3,6 / 6,4	-8,1 / 12,8	21
Other practices	21	0 / 20,6	-6,6 / 14,2	21

ICT Innovation

Computer availability	49	-49,4 / 0	-30,5 / 8,5	39
Use of ICT in schools	52	-2,9 / 49,1	-5,4 / 27,1	33

The indices indicate innovation intensity from small (below 20) to large (over 40). When displayed, positive and negative values show how much of the index corresponds to a expansion and contraction of the covered practices between 2006 and 2016. Authors' calculations based on the PIRLS, PISA and TIMSS databases.

United States

Between 2006 and 2016, the United States experienced modest innovation in its education practices, much less than in other OECD systems. Innovation was almost equally distributed between primary and secondary education. Innovation at the disciplinary level followed the OECD pattern, with more innovation in maths, followed by science and then reading, in all cases markedly smaller than the OECD average. Innovation related to technology was large, taking the form of a higher than average drop in access to computers in schools but also higher than average expansion in the use of ICT in class. Independent knowledge acquisition practices in class, usually using computers, spread more than in other systems, while further innovation mainly lay in the scale up of teacher peer learning practices and of active learning practices in science education.

Practices that changed the most

Primary

61 more students in 100 frequently practised maths skills and procedures on computers, reaching a **79%** coverage

37 more students in 100 frequently used computers to look up for ideas and information in maths, reaching a **43%** coverage

30 less students in 100 in science and **28** less in reading had computers (including tablets) available to use during lessons, reaching a **47%** and **70%** coverage respectively

Secondary

44 more students in 100 frequently practised maths skills and procedures on computers, reaching a **57%** coverage

39 more students in 100 frequently used computers to look up for ideas and information in maths, reaching a **42%** coverage

31 more students in 100 frequently processed and analysed data on computers in maths, reaching a **35%** coverage

Some trends in educational outcomes

+

Academic outcome in primary and secondary science

Academic outcome in primary and secondary maths

Academic outcome in primary reading

Student satisfaction in primary education

Student enjoyment in primary and secondary science lessons

Teachers' collective ambition for their students in primary and secondary education

=

Student satisfaction in secondary education

Teachers' collective self-efficacy in primary and secondary education

Equity of academic outcomes in primary reading

Equity of academic outcomes in primary and secondary science

Equity of academic outcomes in primary and secondary maths

United States

Measuring Innovation in Education 2019
What has changed in the classroom?

Measuring innovation in education and understanding its process is essential to improve the quality of the education sector. We need to examine whether, and how, practices are changing within classrooms and educational organisations and how students use learning resources. We should know much more about how teachers change their professional development practices, how schools change their ways to relate to parents, and, more generally, to what extent change and innovation are linked to better educational outcomes. This would help policy makers to better target interventions and resources, better understand where they need to get better evidence, and get quick feedback on whether reforms do change educational practices as expected. This would also enable us to better understand the role of innovation in education.

Key findings for OECD education systems

- On average, there has been a moderate level of innovation in OECD education systems, perhaps more than one would often acknowledge, but probably less than what would be needed to really improve education systems
- Many education systems have experienced high levels of technology-related innovation, with a slight decrease in access to computers and a significant increase of the use of ICT in pedagogical practices. Furthermore, on average, access to laptops increased by 17 % points between 2009 and 2015.
- In many countries, peer learning has spread as a teacher professional development practice – increasing by 40 % points for the OECD on average.
- While many policy debates have focused on "21st century skills" in the past decade, rote learning practices have spread to a similar extent as active learning practices, increasing by 28 and 26 % points respectively.
- While in some practices there have been similar patterns across education systems, in most of them there does not seem to be an international convergence on pedagogical and educational practices.
- Innovation is not an end in itself, and some changes have not always translated into improvements in educational outcomes.

Methodology

The book examines the diffusion or contraction of about 150 educational practices from 2006 to 2016 by analysing 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). Beyond identifying the areas in which each education system has demonstrated emerging or changing organisational and pedagogical practices over a decade, the book synthesises education systems' intensity of innovation by computing composite indices for countries for which enough information is available. Based on effects sizes (multiplied by 100), the education innovation indices propose a continuum, with innovation intensity being considered as relatively small when below 20, moderate between 20 and 40, and large above 40. More details on the methodology can be found in the report.

Ask questions
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Find the report
https://tinyurl.com/MIE2019

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