

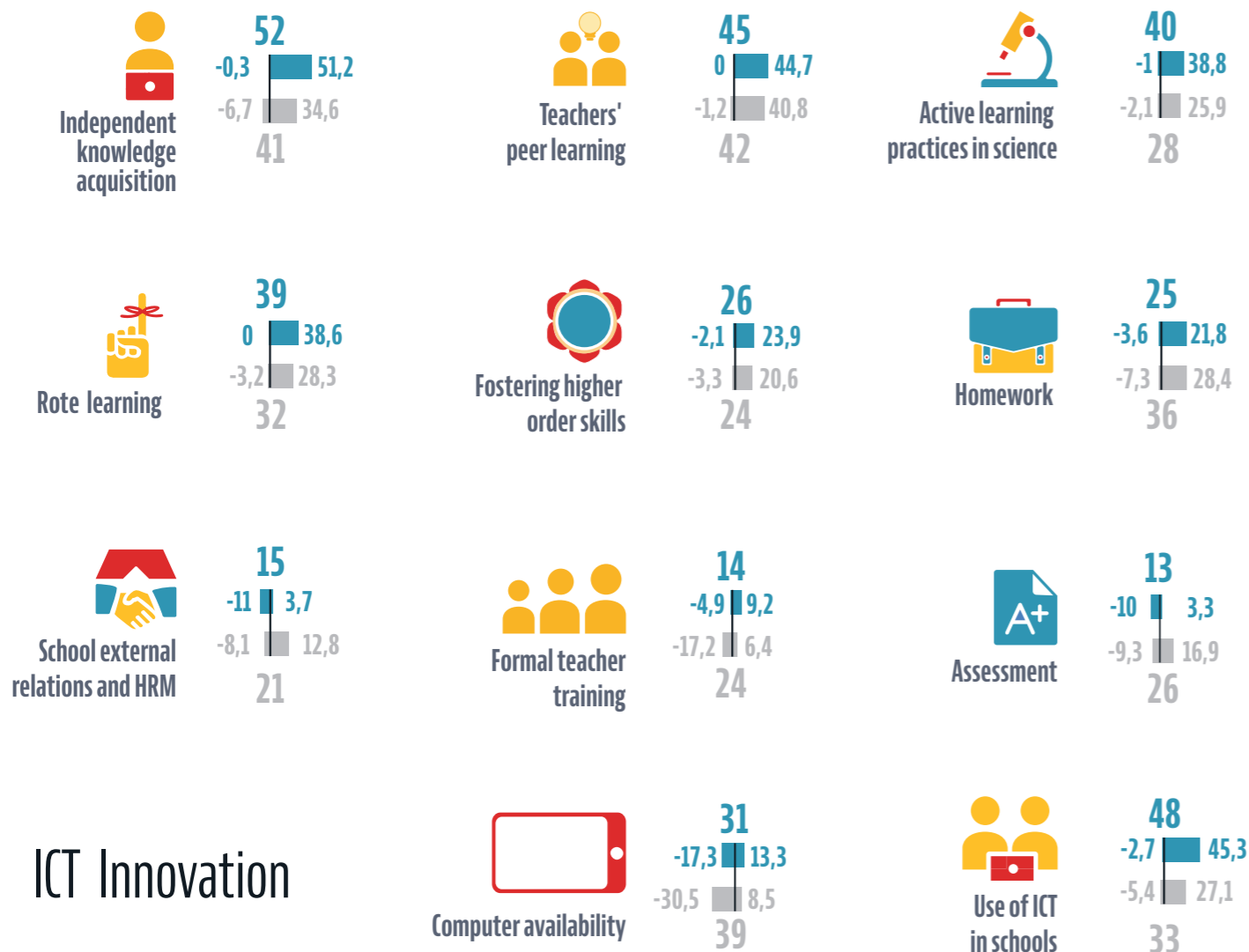
Australia 28 | Education Innovation Index

OECD average 30

Innovation in education by category



Innovation in education by type of practice



ICT Innovation



Australia

Between 2006 and 2016, the Australian education system experienced moderate educational innovation, a little less than the OECD average. While both mathematics and science practices changed more than average, innovation in mathematics practices significantly trumped innovation in science. Some of the difference with other OECD systems comes from lower innovation in primary education, as innovation in secondary was at the same level as other OECD systems. Whereas students have had less access to computers in school, they have used more technology in their education. Innovation mainly took place through the increase of independent knowledge acquisition in class, usually using ICT, as well as through more teacher peer learning.

Some trends in educational outcomes



- Student satisfaction in secondary education
- Student enjoyment in secondary science lessons
- Teachers' collective ambition for their students in primary and secondary education



- Academic outcome in primary and secondary science
- Academic outcome in primary and secondary maths
- Student satisfaction in primary education
- Student enjoyment in primary science lessons
- Teachers' collective self-efficacy in primary and secondary education
- Equity of academic outcome in primary and secondary science
- Equity of academic outcome in primary and secondary maths

Practices that changed the most

Primary

- 65 more students in 100 frequently practised maths skills and procedures on computers, reaching a 75% coverage
- 49 more students in 100 frequently used computers to look up for ideas and information in maths, reaching a 54% coverage
- 38 more students in 100 frequently observed and described natural phenomena, reaching a 54% coverage

Secondary

- 44 more students in 100 frequently practised maths skills and procedures on computers, reaching a 48% coverage
- 44 more students in 100 in science and 34 more in maths frequently used computers to look up for ideas and information, reaching a 60% and 36% coverage respectively
- 26 more students in 100 frequently processed and analysed data on computers in maths, reaching a 26% coverage



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.

Australia

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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