Schooling disrupted – schooling rethought

Copenhagen, 5 September 2020

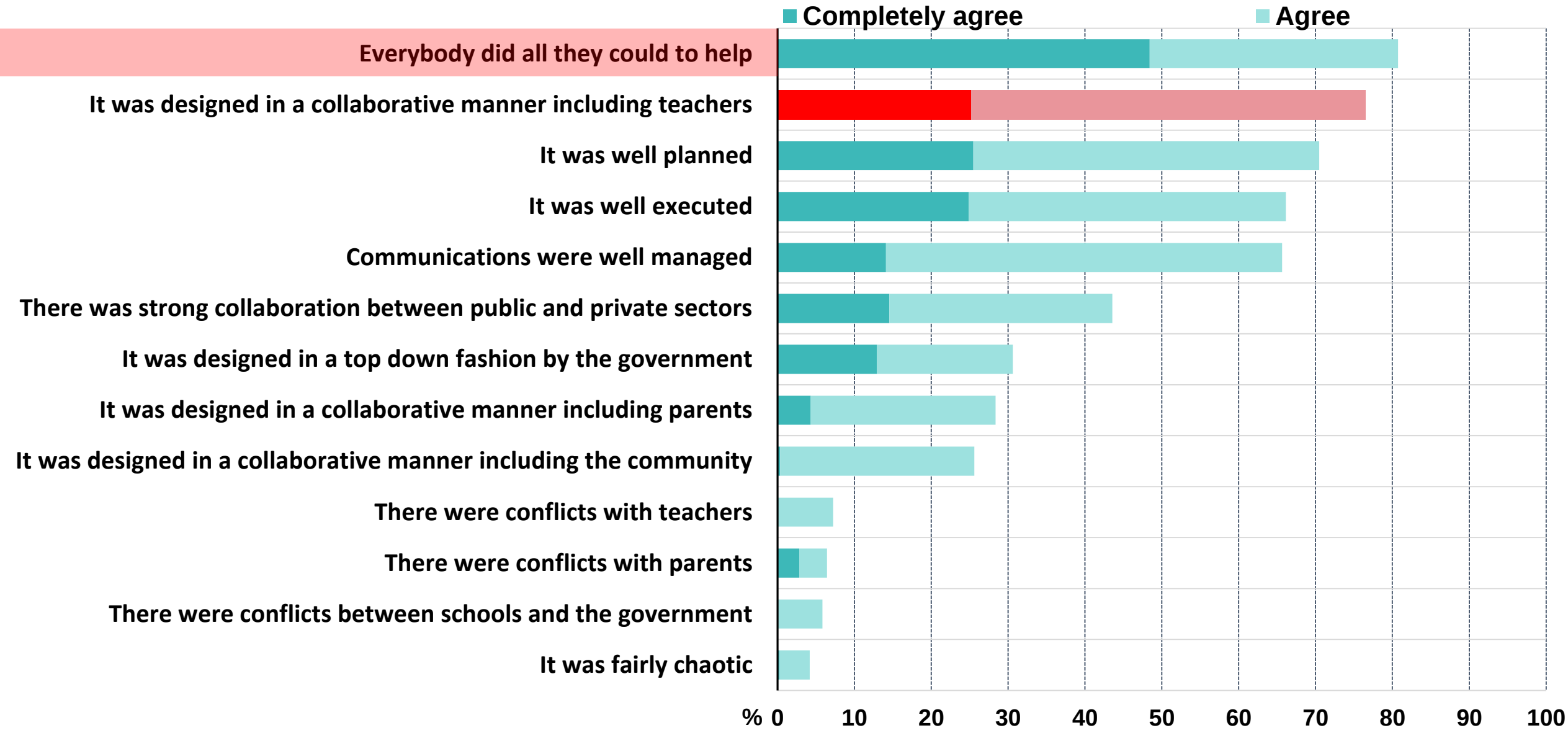
Andreas Schleicher

- **1.5bn** students (and their parents) learned over the last two months that learning is not a place but an activity
- **Remote learning** has become the lifeline for learning but doesn't address the social functions of schools
- Access, use and quality of **online resources** amplify inequality
- **Accreditation** at stake
- Huge needs for **just-in-time professional development**
- Re-prioritisation of curricula and strategies for **re-opening** of schools needed
- But lots of highly **innovative learning environments** emerging !

Working together

Evaluation of contingency strategies

(Averages across 36 countries, May 2020)



The crisis exposed the many inequities in our school systems

Lost individual income due to Corona-induced learning loss

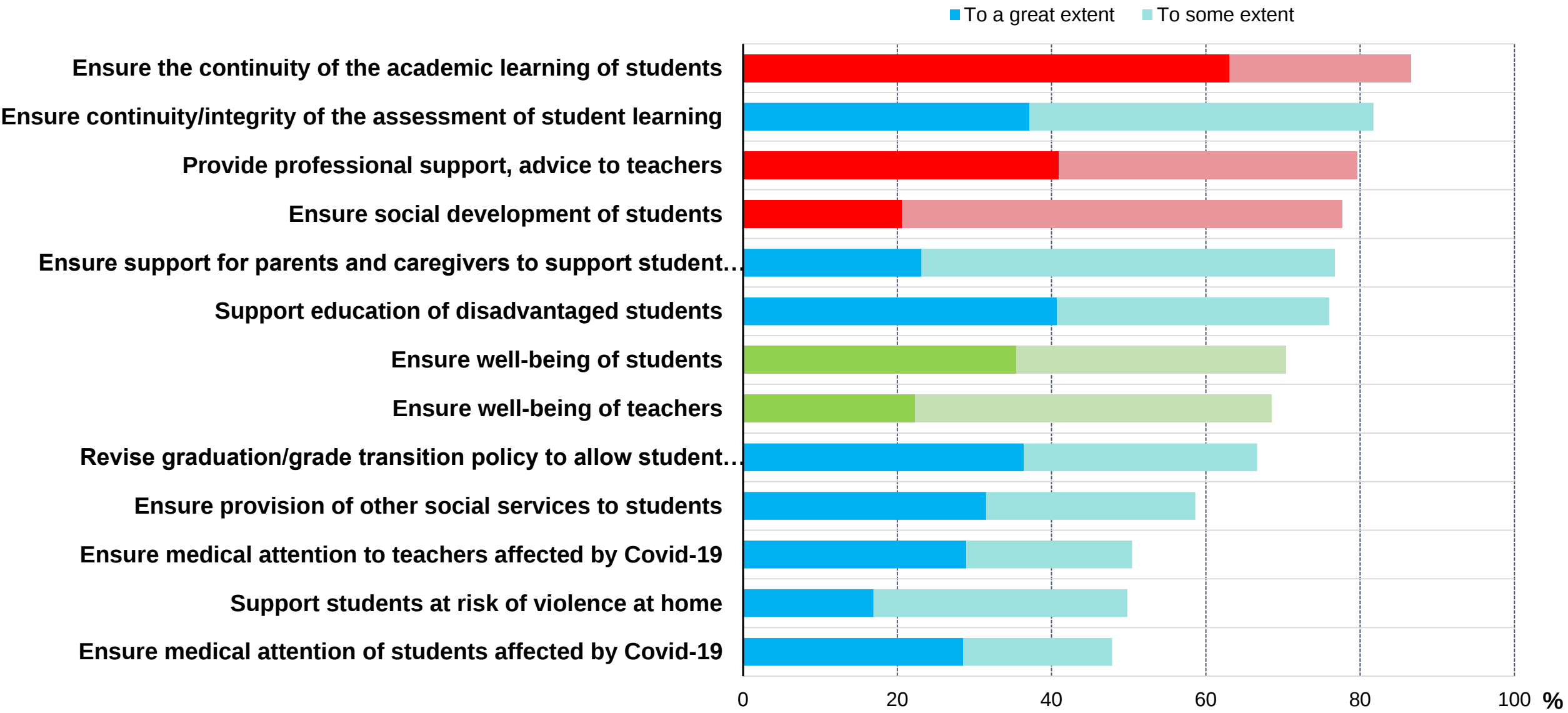
Learning loss (school-year equivalents)	Pooled (0.232)	US (0.274)	Lowest [Greece] (0.137)	Highest [Singapore] (0.501)
0.25	1.9%	2.3%	1.1%	4.2%
0.33	2.6%	3.0%	1.5%	5.6%
0.50	3.9%	4.6%	2.3%	8.4%
0.67	5.2%	6.1%	3.0%	11.1%
1.00	7.7%	9.1%	4.6%	16.7%

Note: The values in parentheses in the row headers are the income return per standard deviation of individual test scores.

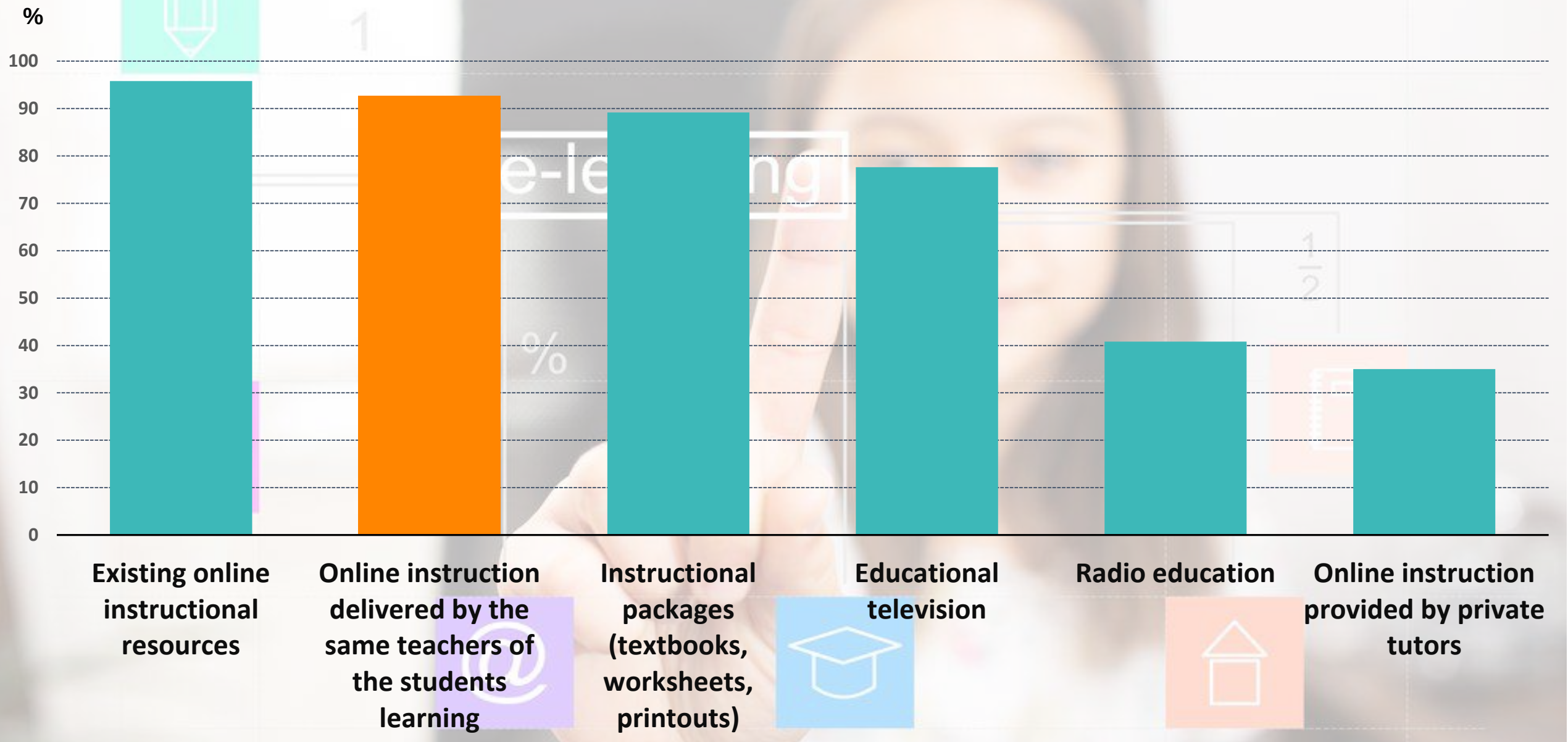
Source: Author calculations based on Hampf, Wiederhold and Woessmann, (2017[8]), "Skills, Earnings, and Employment: Exploring Causality in the Estimation of Returns to Skills", *Large-scale Assessments in Education*, Vol. 5/1, pp. 1-30.

Focus of contingency strategies (Averages across 36 countries, May 2020)

Table 10



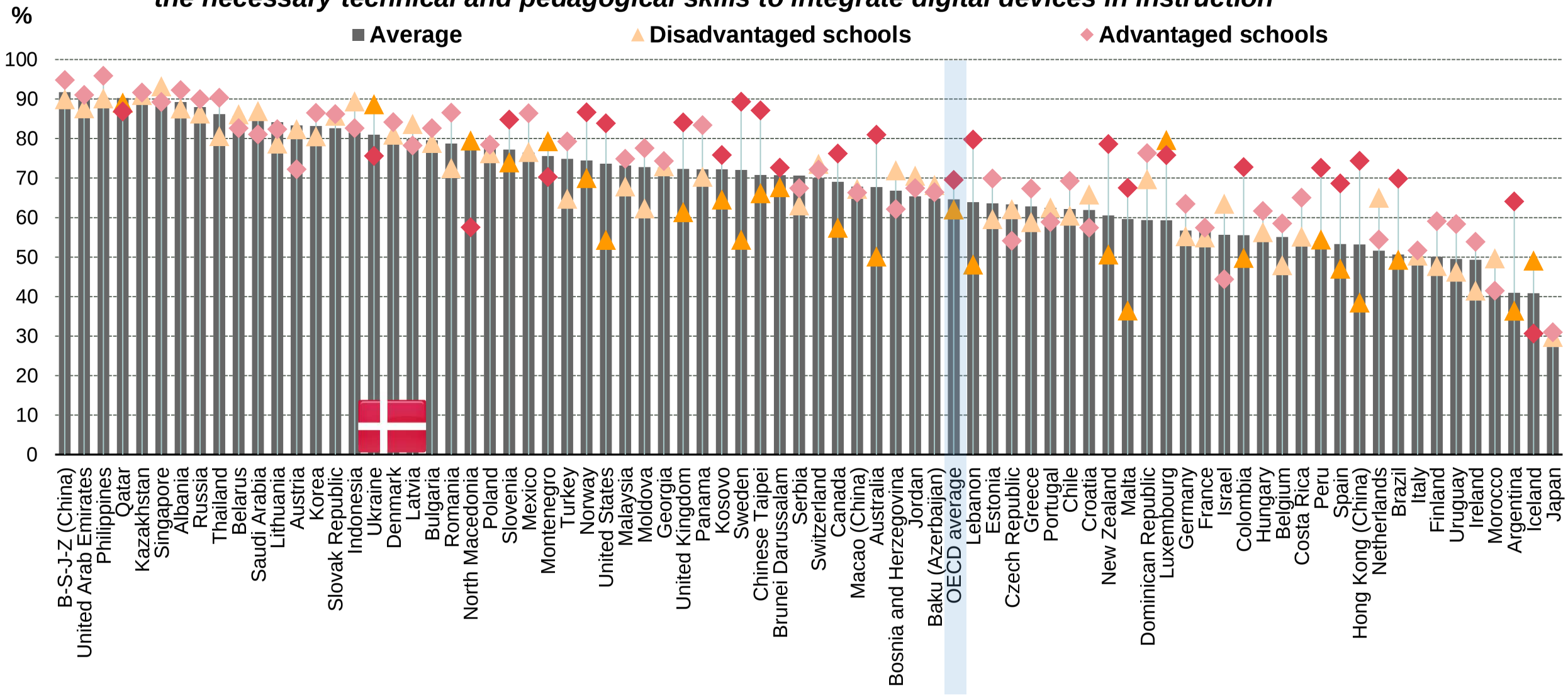
Instructional resources used (Averages across 36 countries, May 2020)



Teachers have the necessary technical and pedagogical skills to integrate digital devices in instruction (PISA 2018)

Fig A9

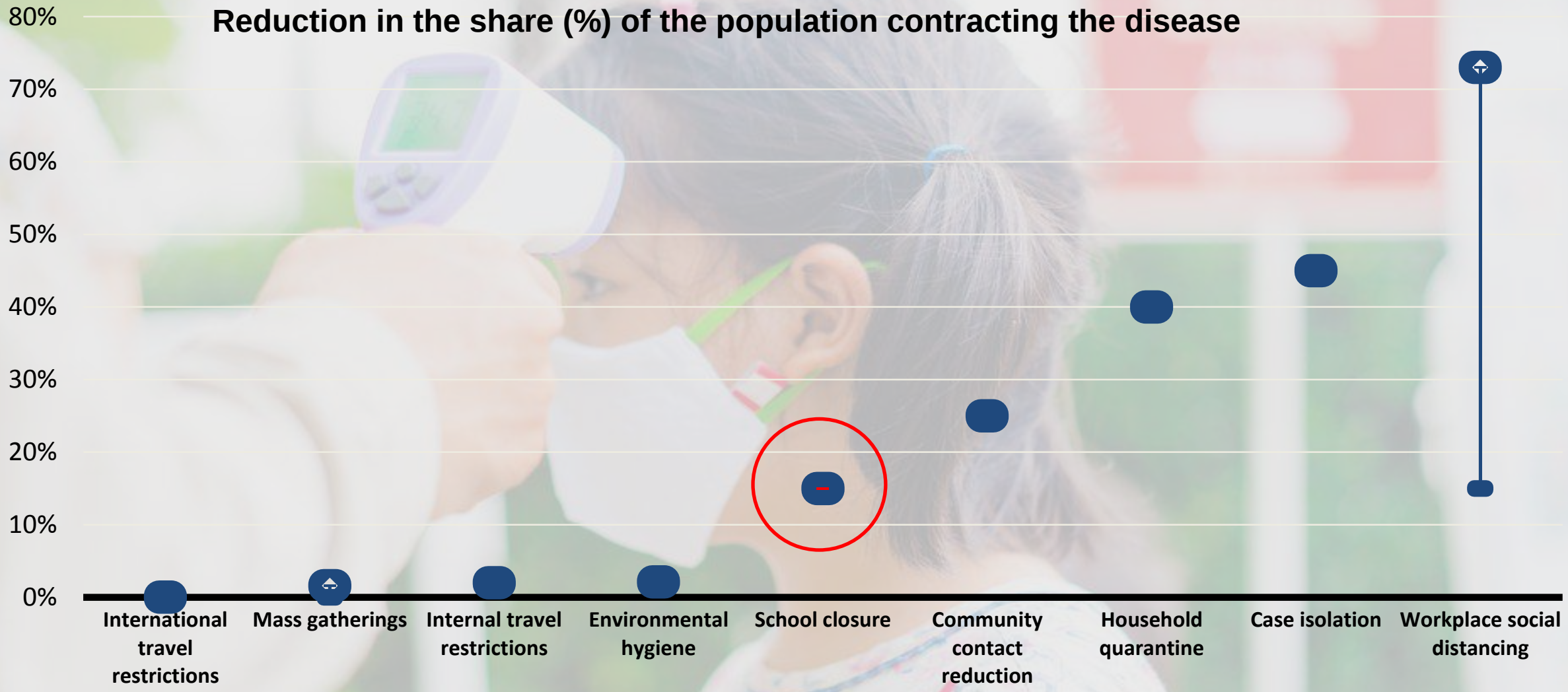
Percentage of students in schools whose principal agreed or strongly agreed that teachers have the necessary technical and pedagogical skills to integrate digital devices in instruction



Re-opening schools

Strategies for the new normal

Evidence from previous epidemics suggests school-closure can prevent < 15% of infections

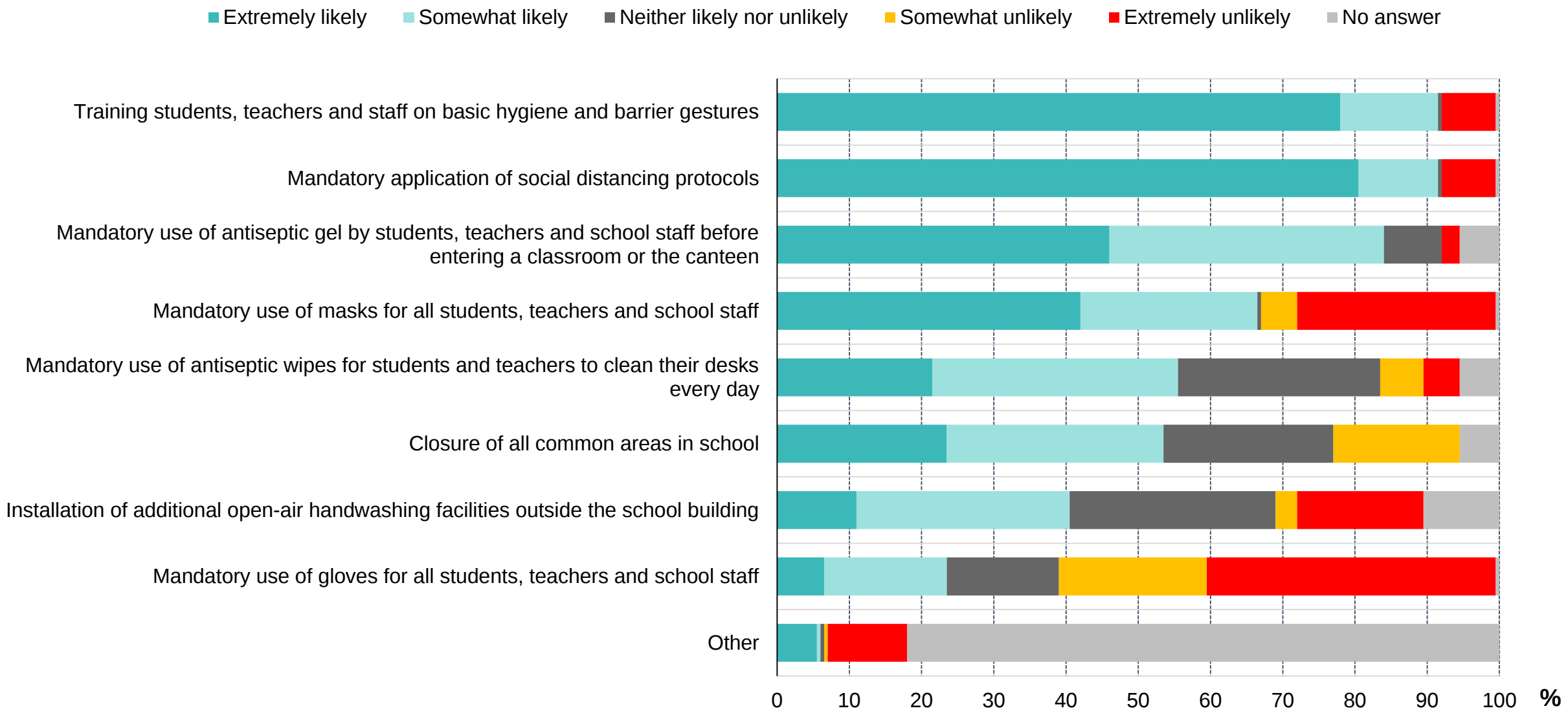


Source: OECD, Flattening the covid-19 peak: Containment and mitigation policies

Health measures included in the reopening plans

(Averages across 36 countries, May 2020)

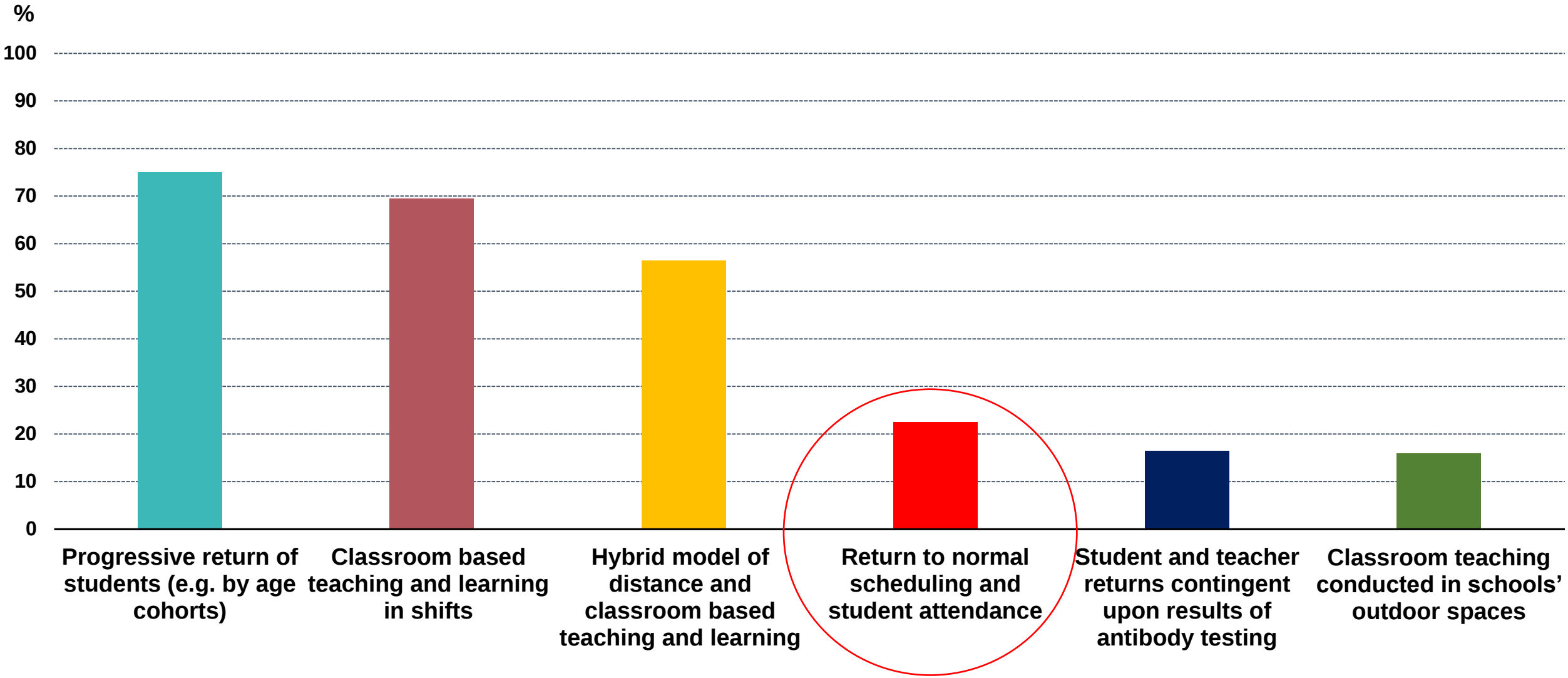
Table 22



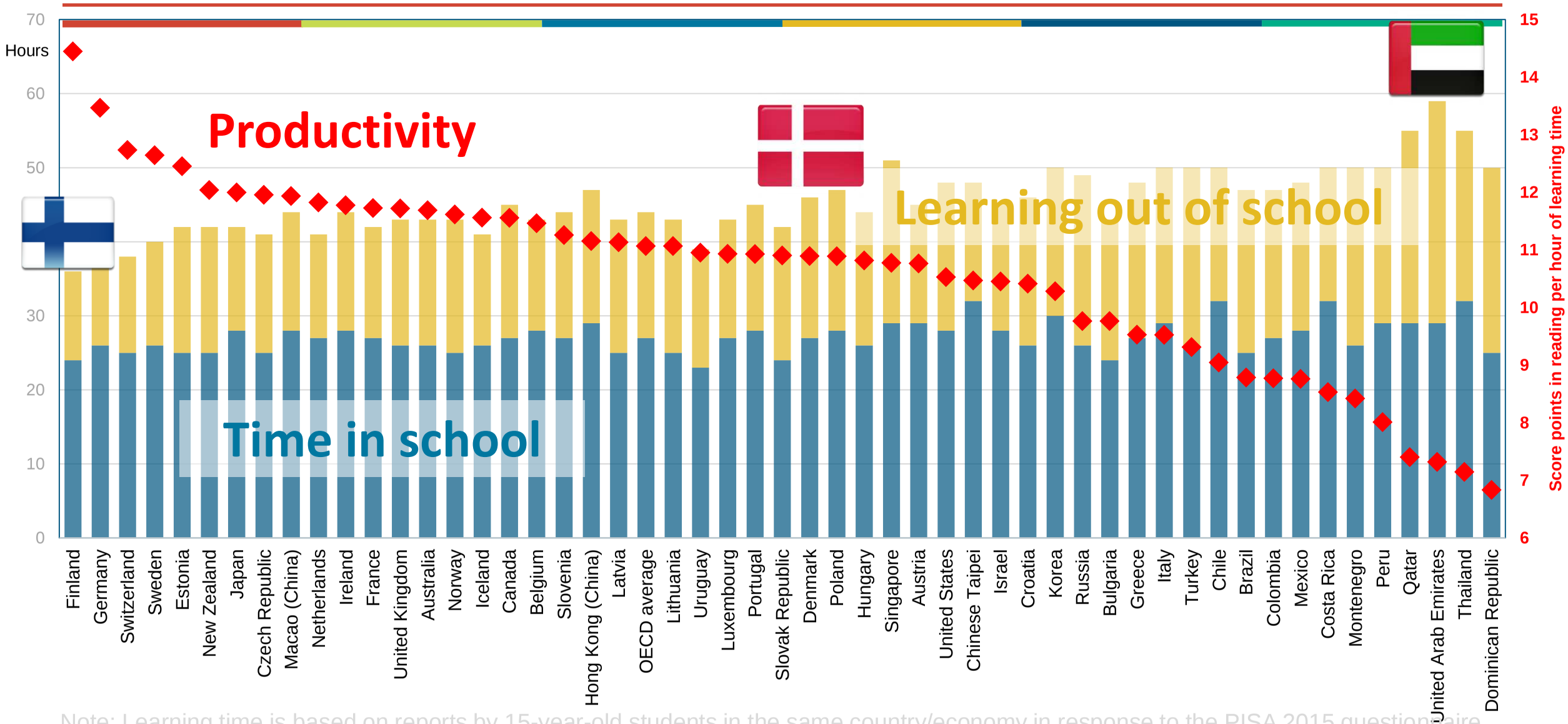
What strategies will be used for school reopening?

(Averages across 36 countries, May 2020)

Table 17



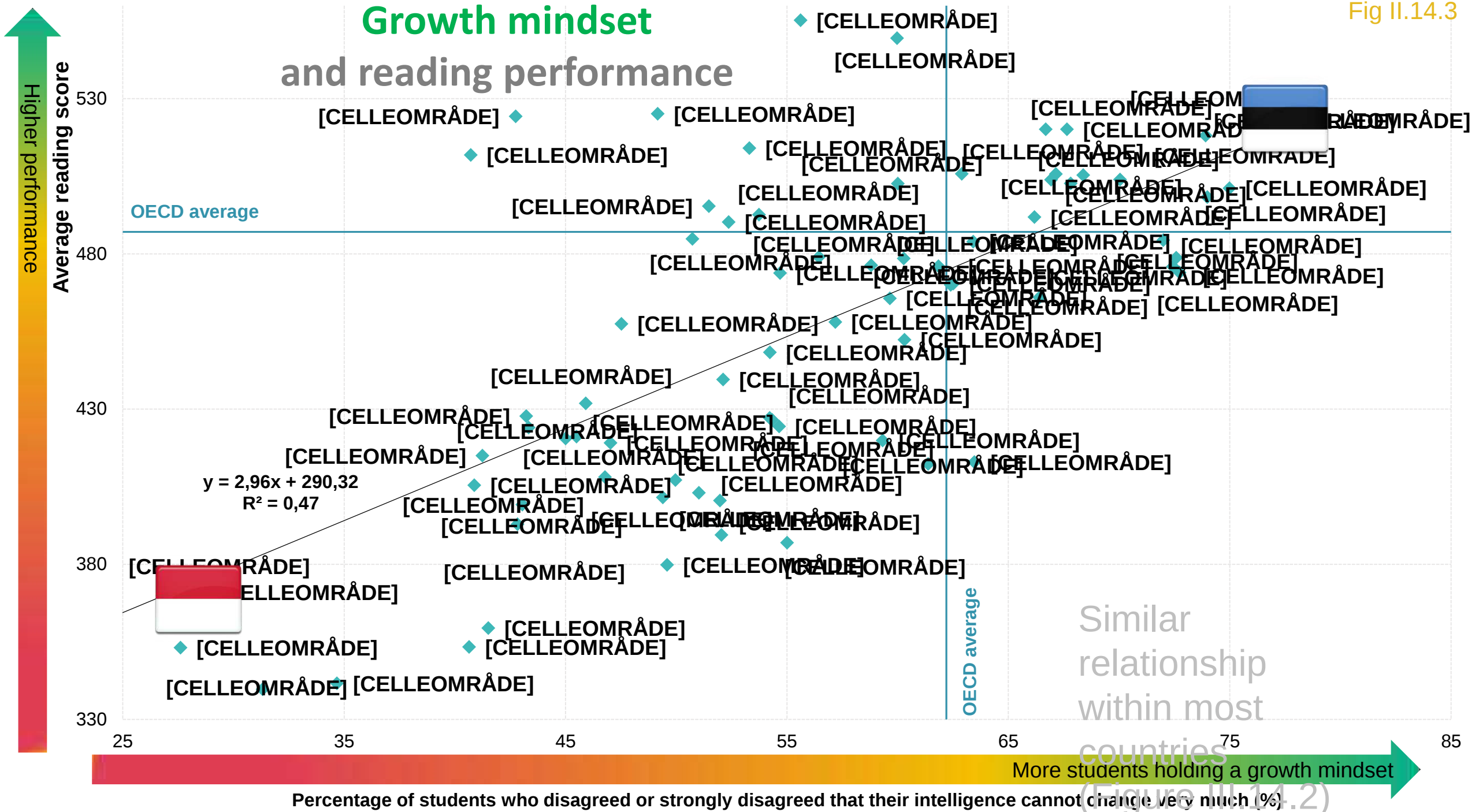
Learning time ≠ learning outcomes



Note: Learning time is based on reports by 15-year-old students in the same country/economy in response to the PISA 2015 questionnaire, Productivity is measured by score points in reading per hour of total learning time

Fig II.14.3

Growth mindset and reading performance

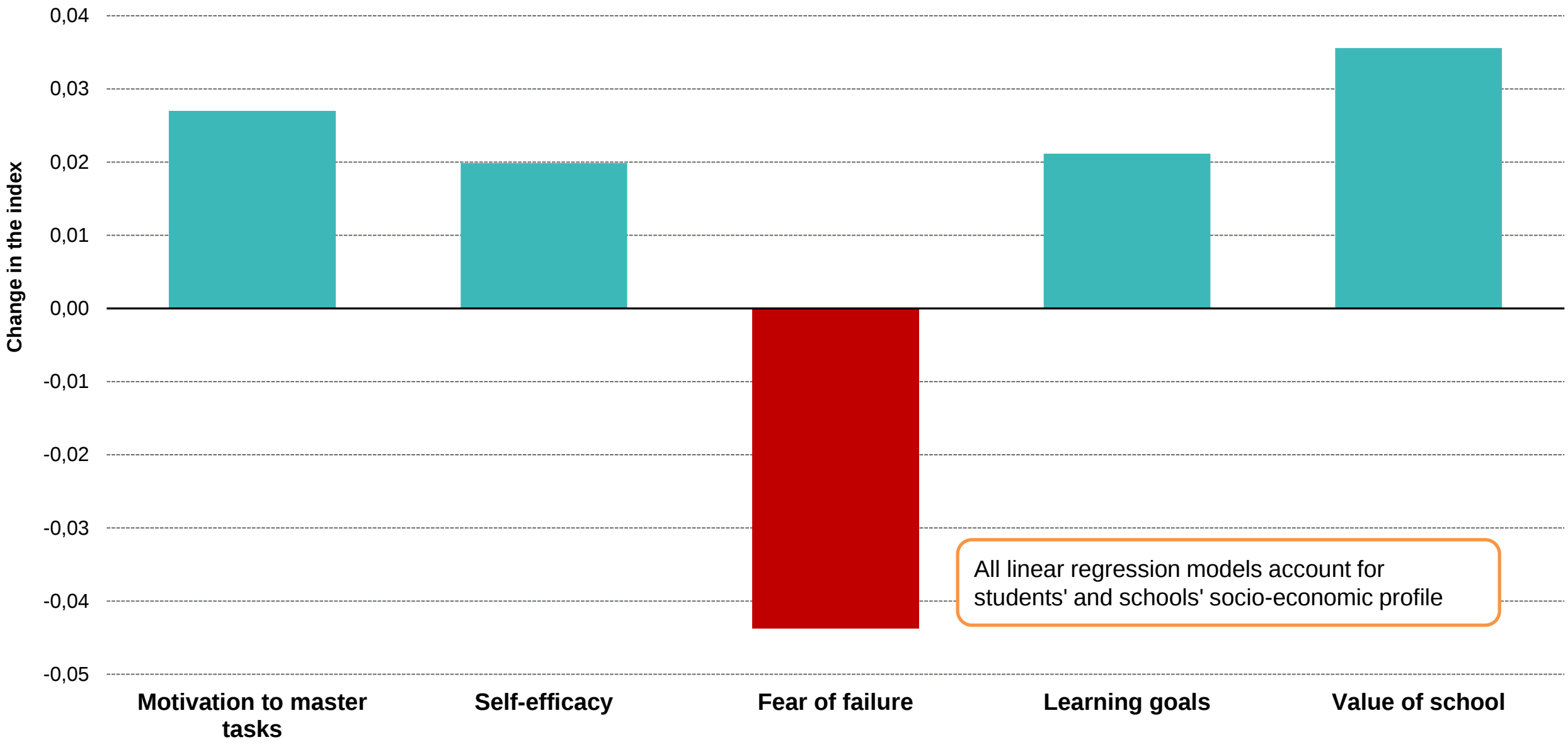


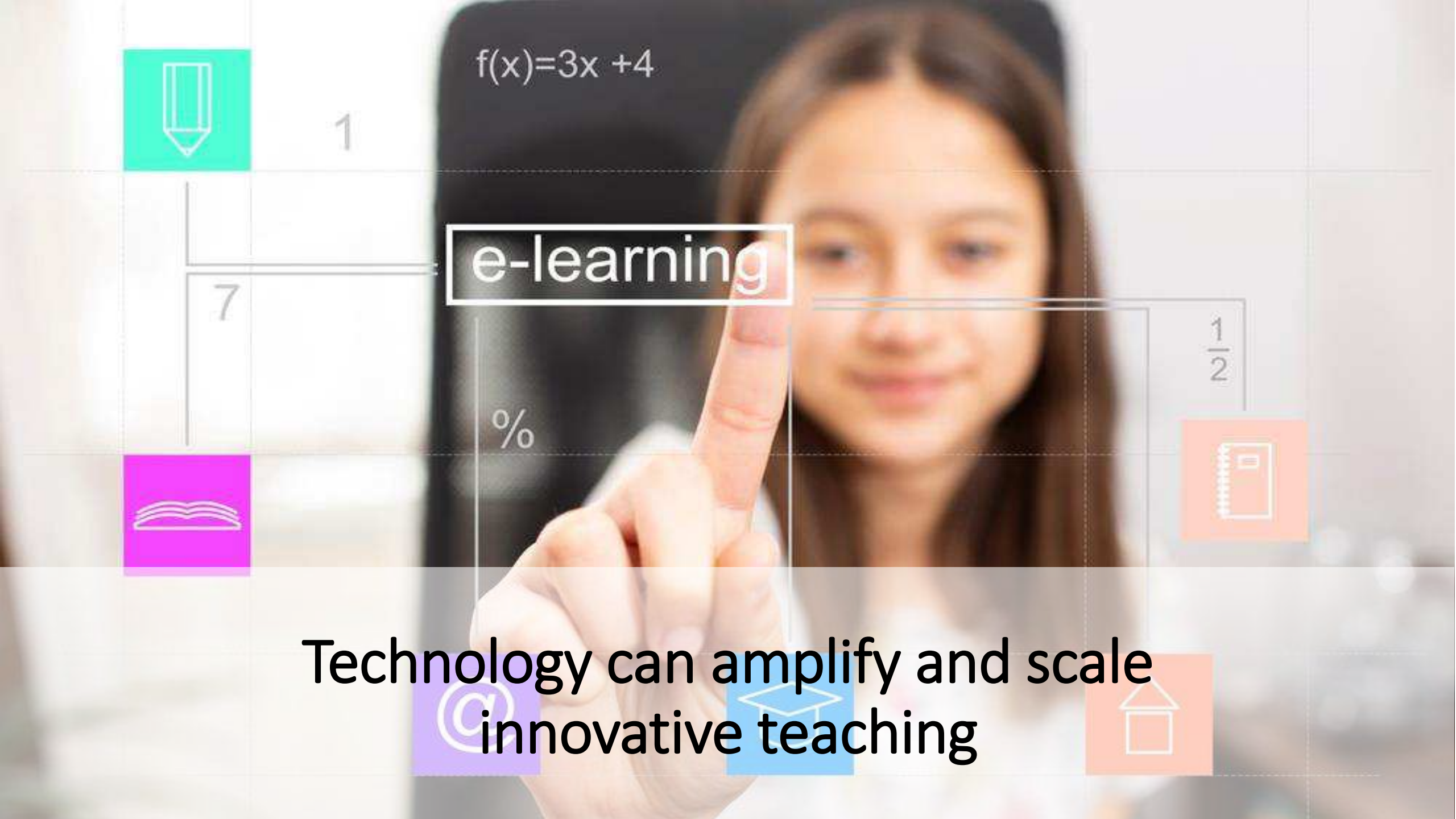
Similar relationship within most countries (Figure II.14.2)

Growth mindset and student attitudes

Change in the following indices when students disagreed or strongly disagreed that "your intelligence is something about you that you can't change very much":

Fig III.14.5

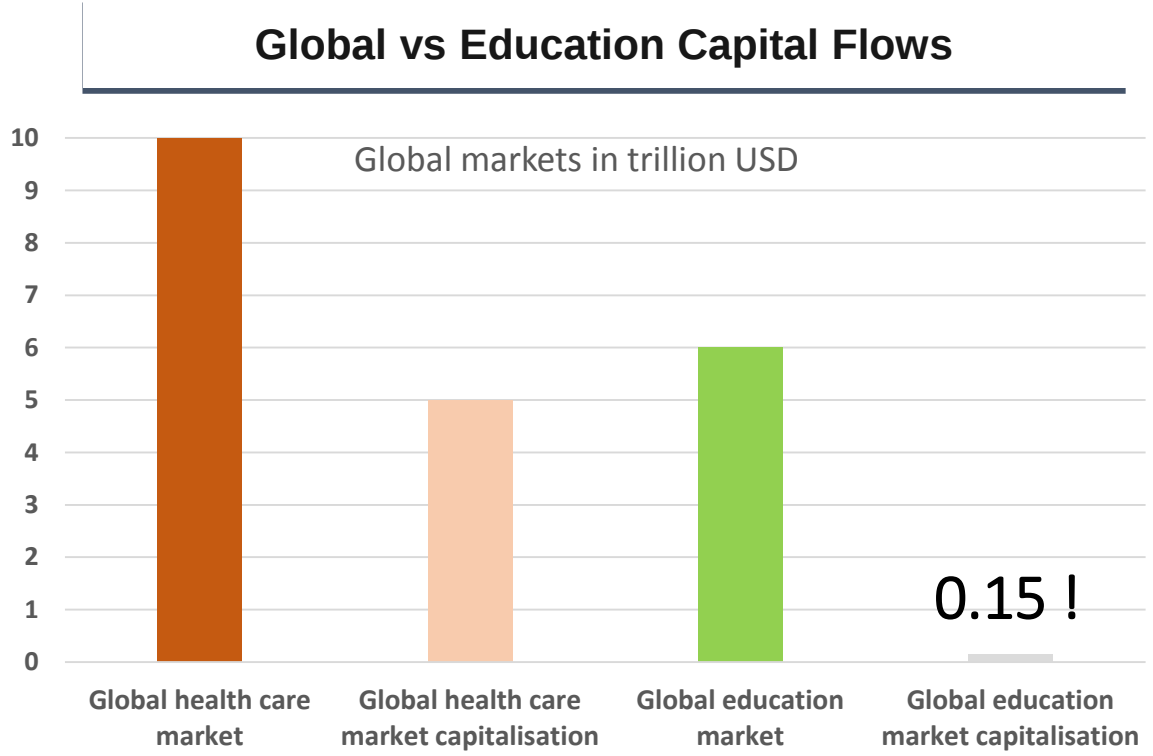


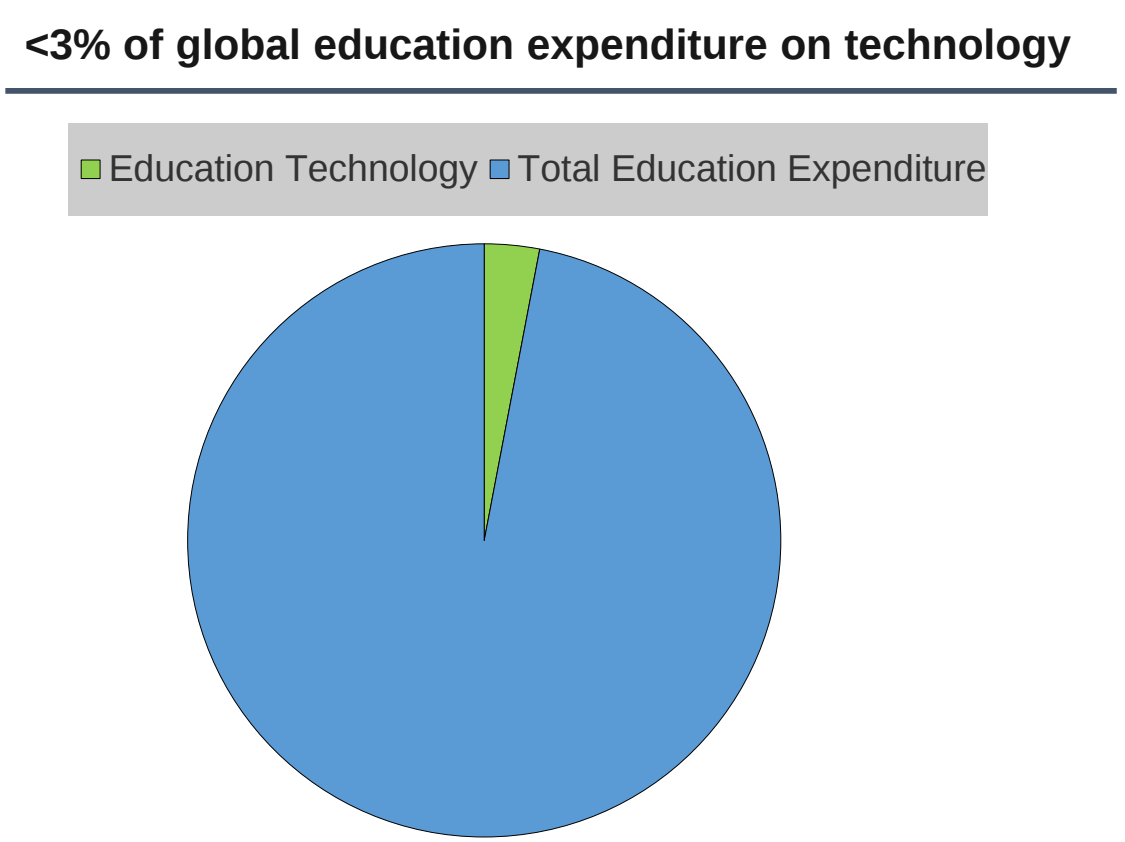


Technology can amplify and scale innovative teaching

Capital flows and digitalisation of education

Education is still at an early technology adoption stage, with comparatively low market capitalisation

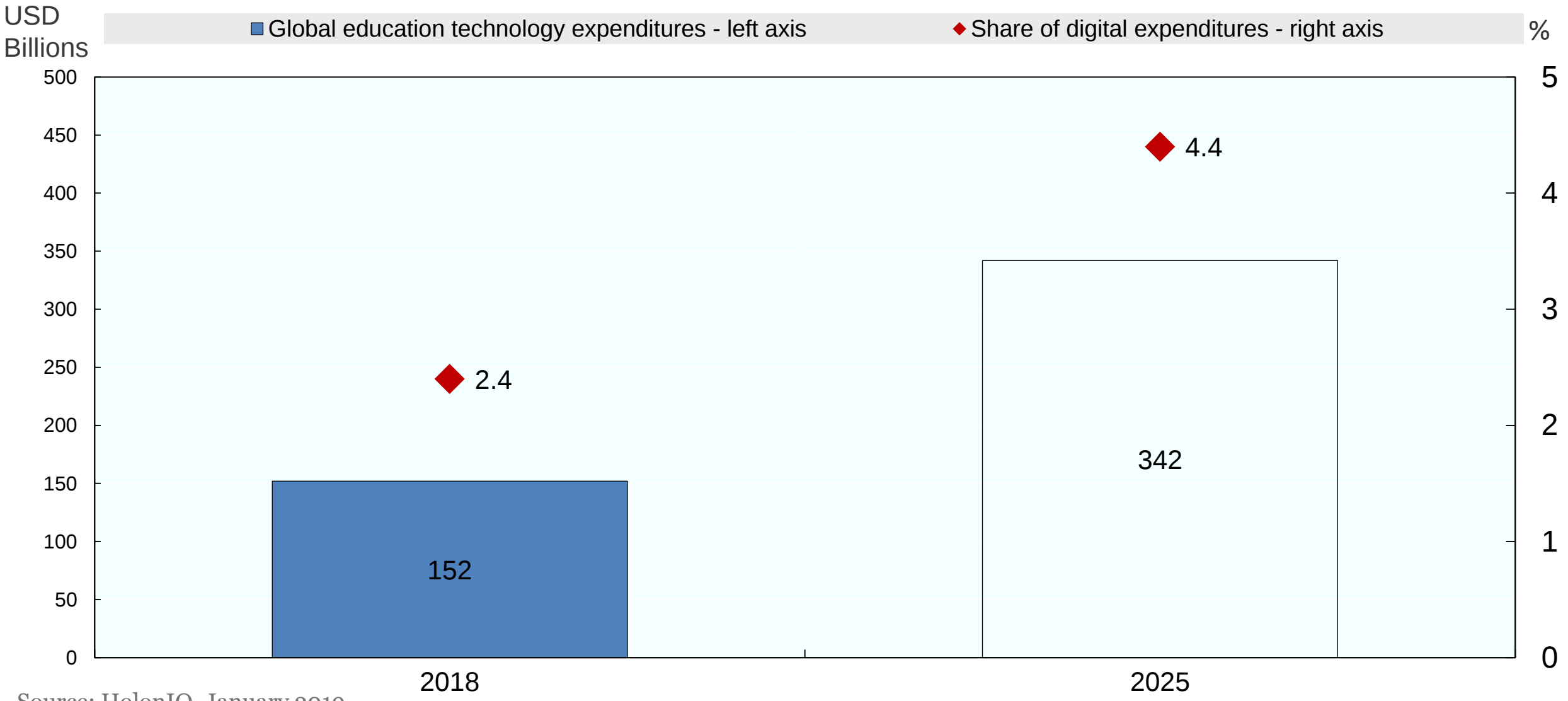




Sources: HolonIQ, World Health Organization, Goldman Sachs, Standard & Poors. All figures are rounded estimates based on source research.

EdTech expenditure

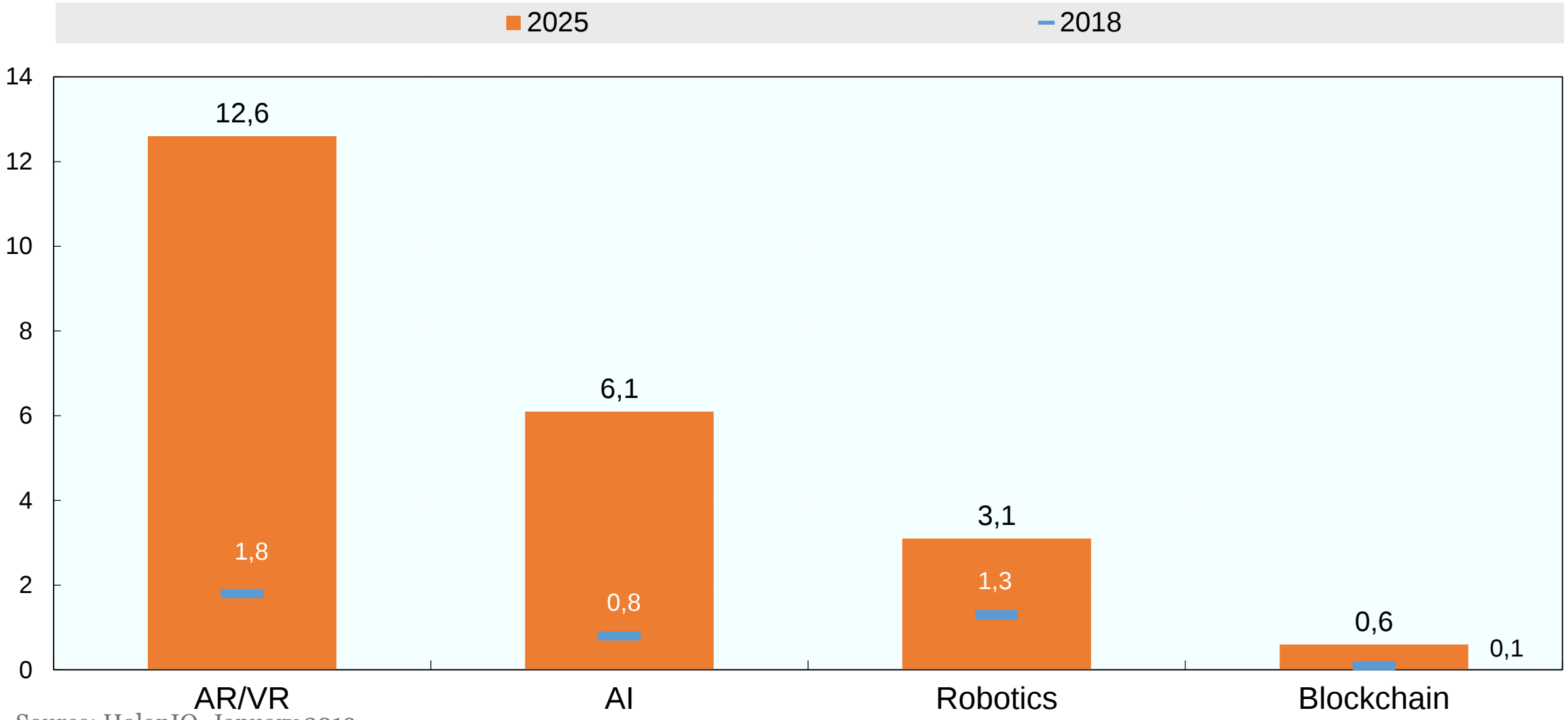
Digital expenditures are forecast to grow fast from USD 152 B to 342 B by 2025



Source: HolonIQ, January 2019

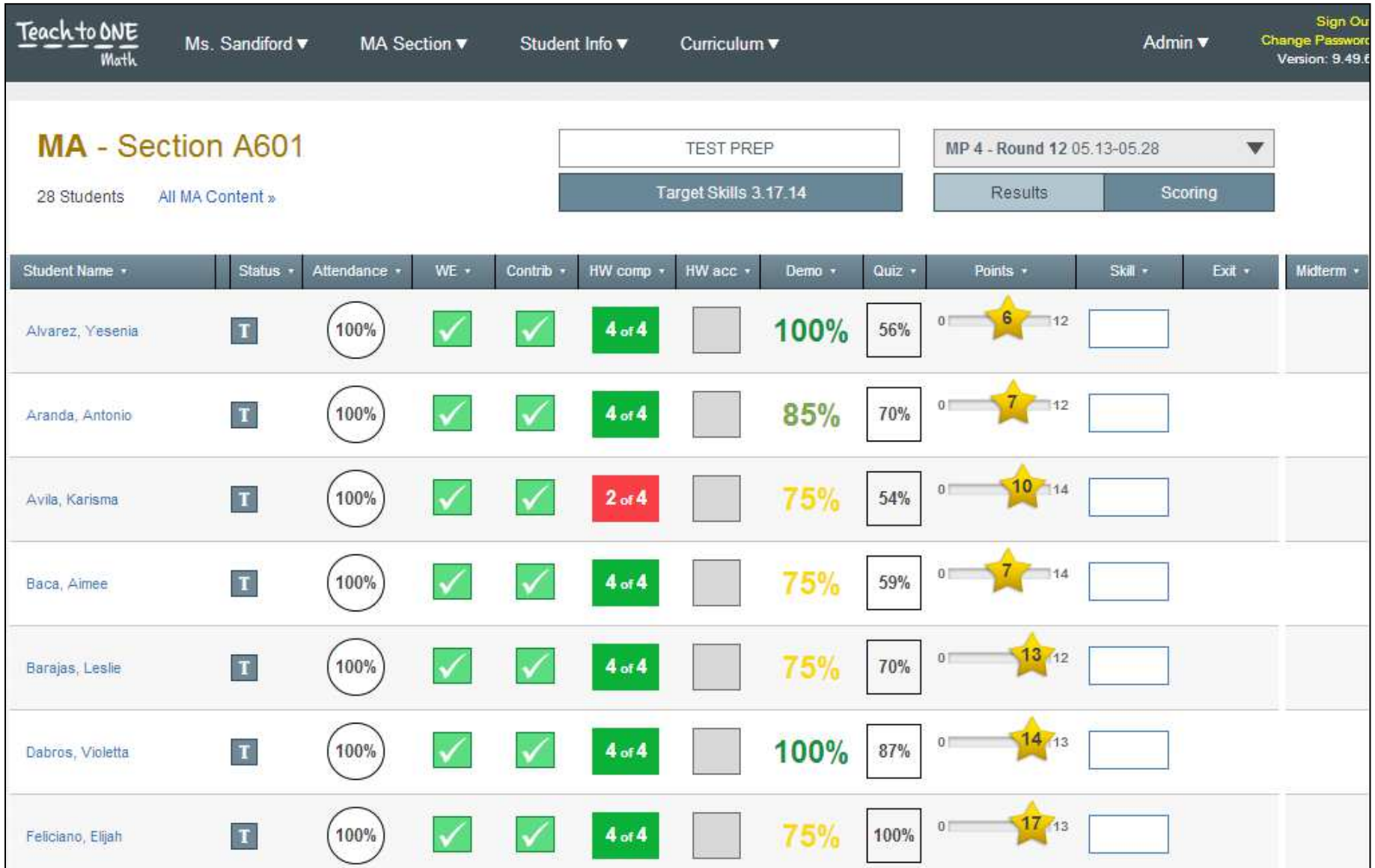
EdTech expenditure

Advanced Education Technology Expenditure, 2018 and 2025 estimate, USD Billions



Source: HolonIQ, January 2019

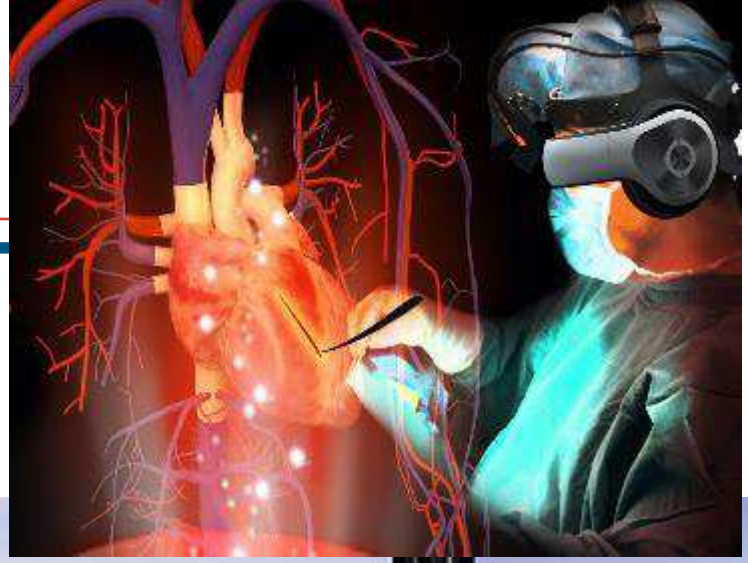
Personalised learning



Providing students with personalised learning materials (content map) and teach them

Assignment of individual work, peer work and lectures

Assessments and exams



- New types of assessments through simulations and games
- Adaptive assessments
- Hands-on assessment in vocational settings
- Increasing reliability of machine rating for essays
- Predictive models may disrupt the exam model

Classroom analytics

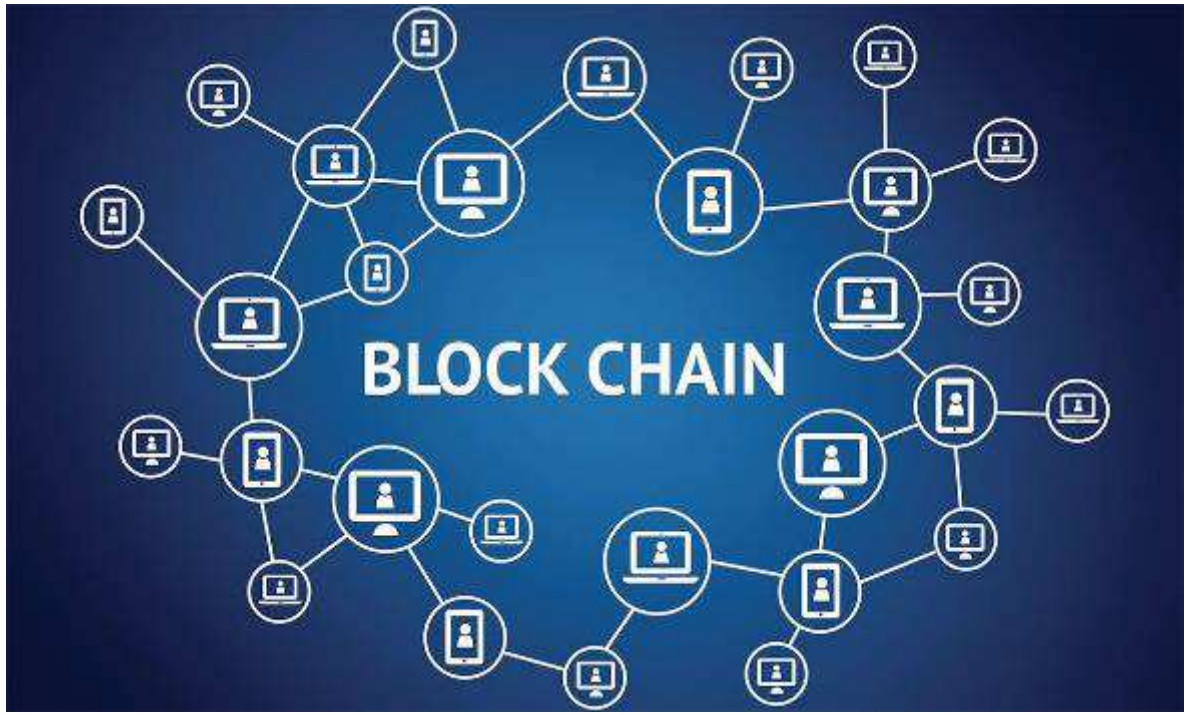
- Learning analytics helps teachers to manage their class:
  - In real time during teaching
  - As a reflective tool after teaching (professional learning)
- Data come from sensors in the classroom, learning management systems or digital activities of students
  - When should you shift to a new activity?
  - Are you losing the attention of your students? Are they engaged in their learning?
  - How do you struture your instruction time (lecture, small group, discussion, assessment, practice, etc.)?
  - Which students do you talk to and support you the most?

Robotics in the classroom

Robots are currently mainly used in the teaching and learning of coding (or computational thinking)

Social robots can take on the roles of teaching aides, tutors, peers and sometimes even students

Blockchain in education



Verification of degrees and credentials

Development of digital degrees

Secure and trustworthy transfer of academic records

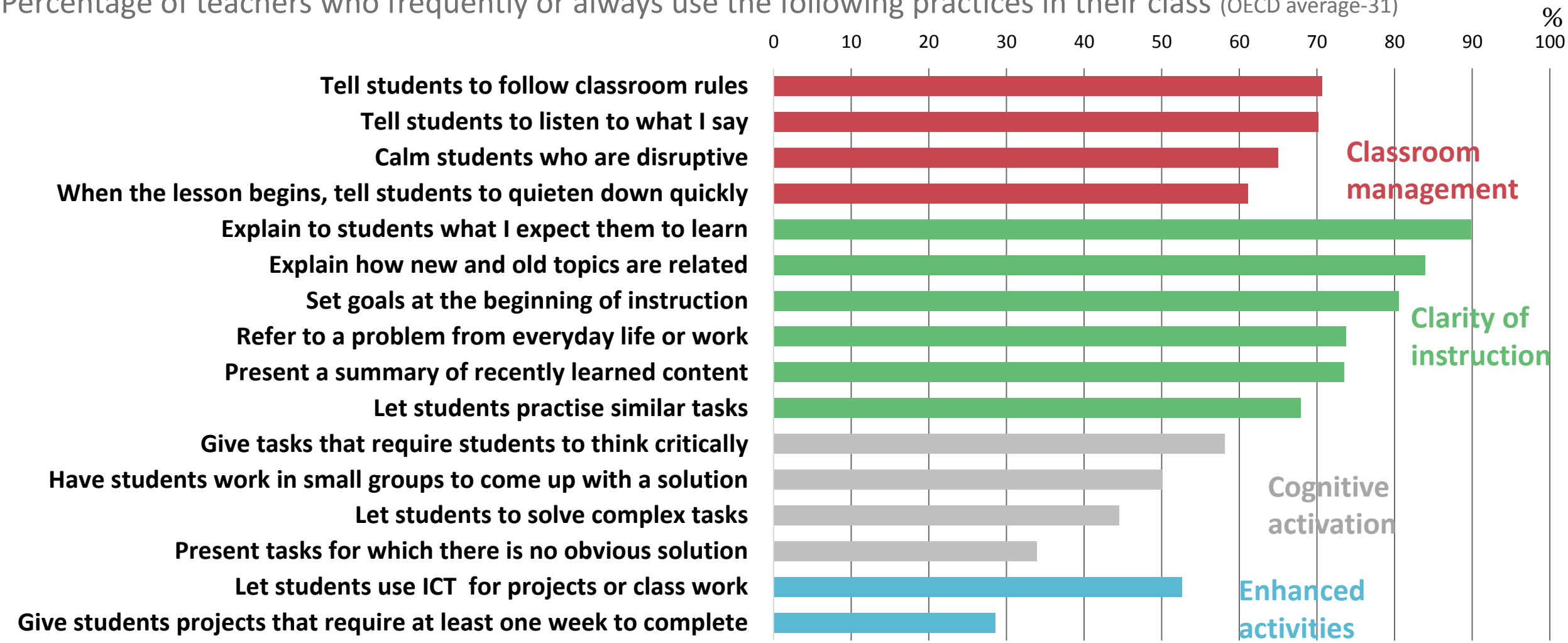
Lowers risks of privacy breach (given its decentralised nature)

Building capacity

Prevalence of pedagogical strategies (TALIS 2018)

Teaching practices

Percentage of teachers who frequently or always use the following practices in their class (OECD average-31)



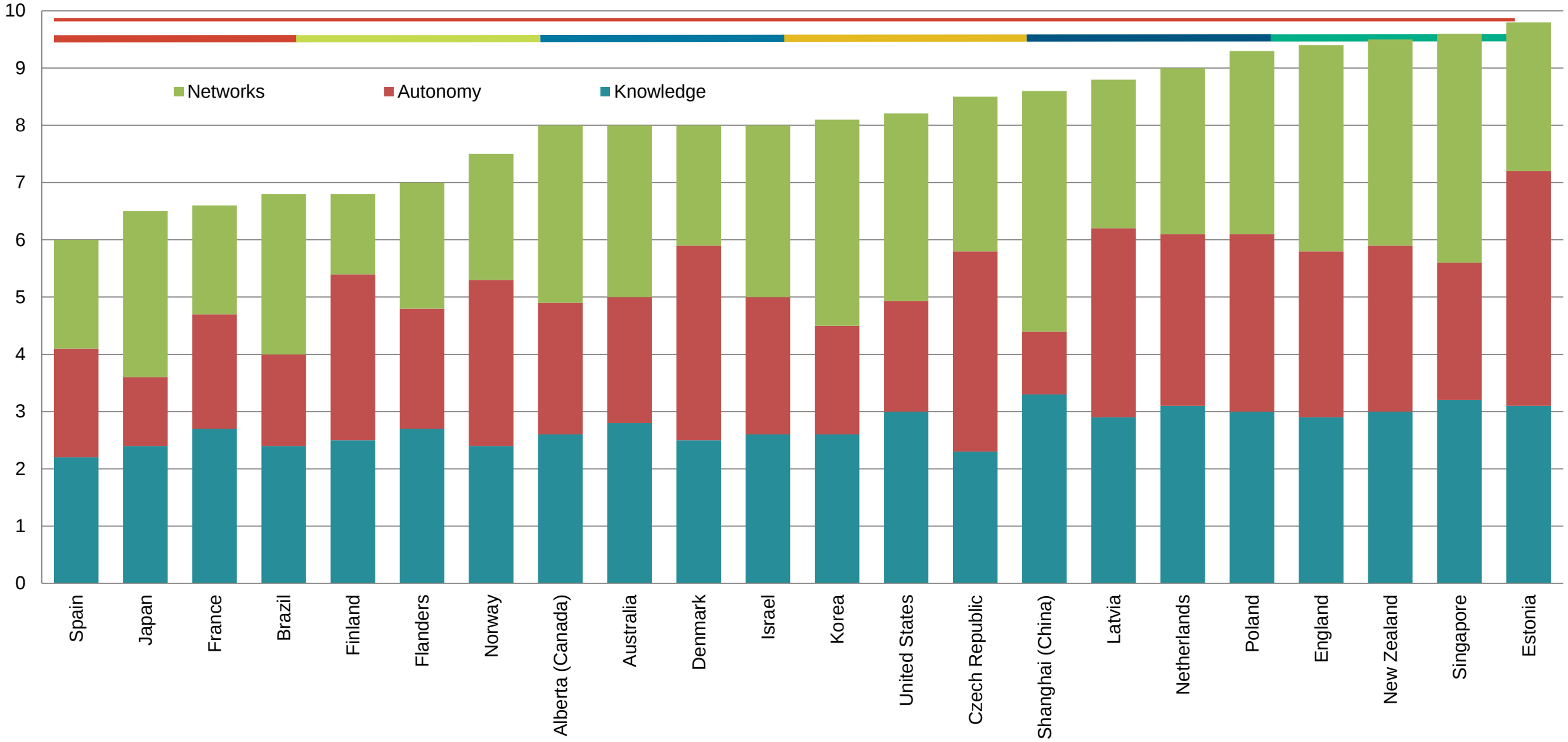
Policy levers to teacher professionalism

Autonomy: Teachers' decision-making power over their work (teaching content, course offerings, discipline practices)

Peer networks: Opportunities for exchange and support needed to maintain high standards of teaching (participation in induction, mentoring, networks, feedback from direct observations)

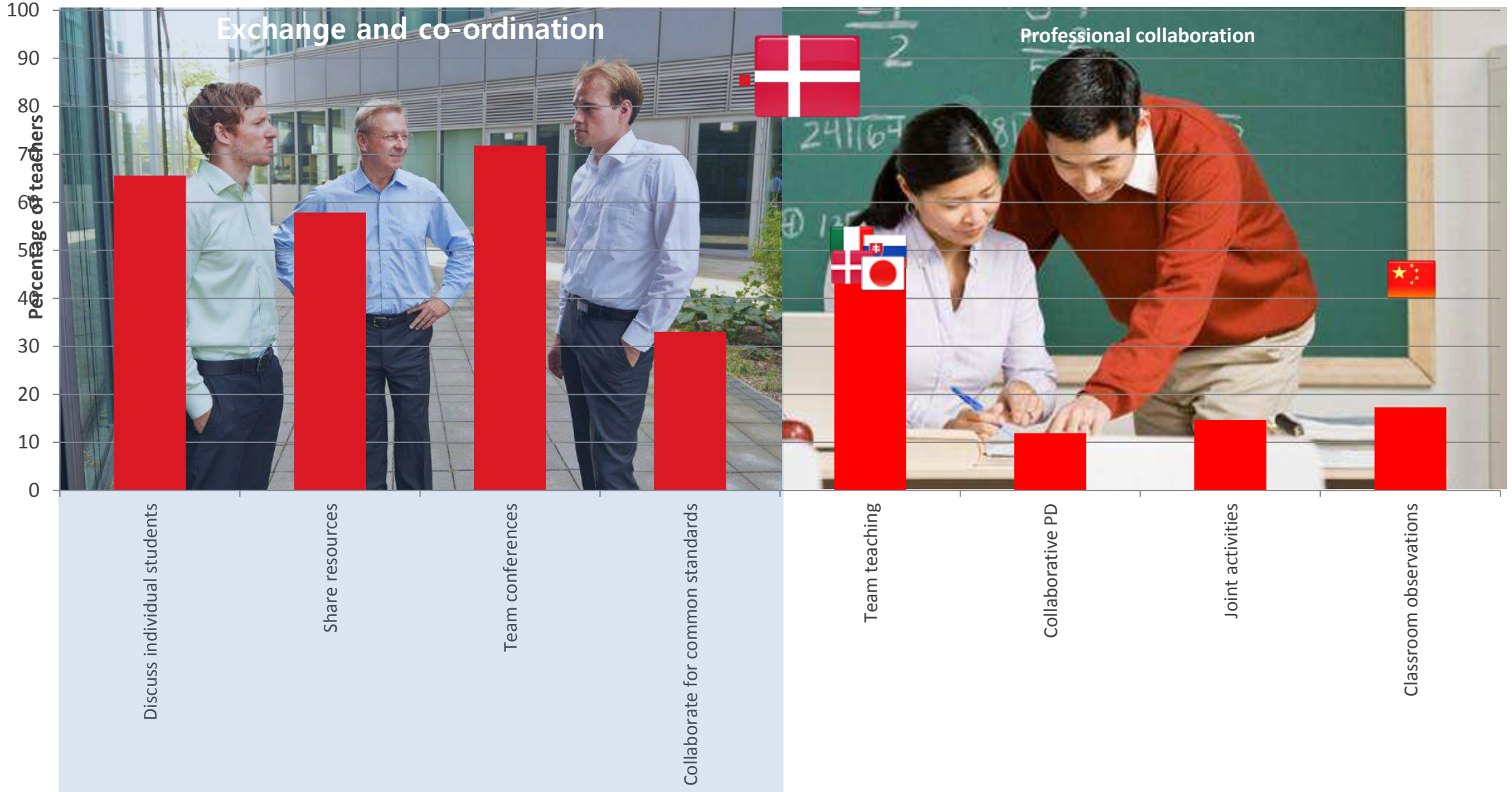
Knowledge base for teaching (initial education and incentives for professional development)

TALIS Teacher professionalisation index

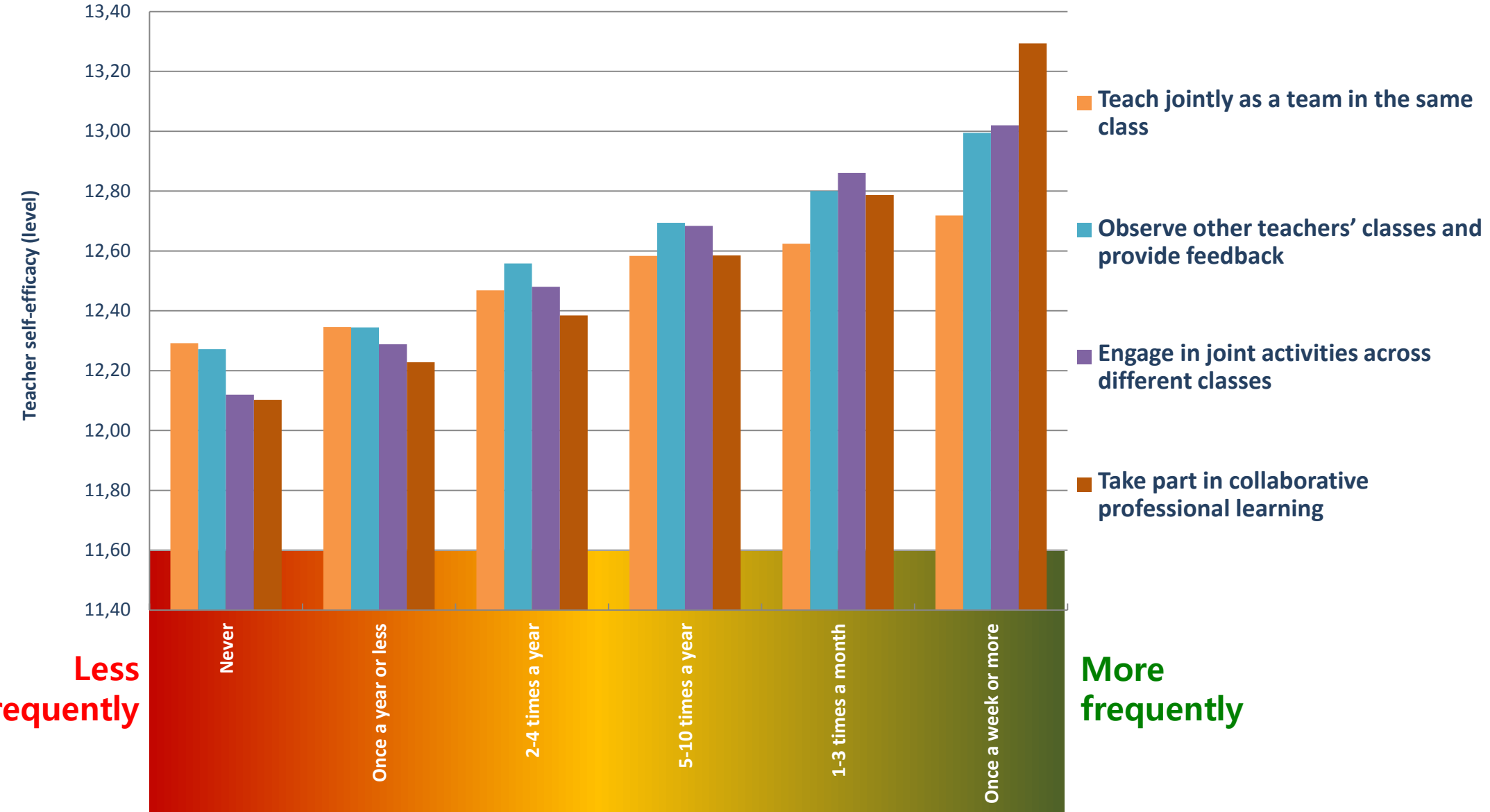


Teacher professional collaboration

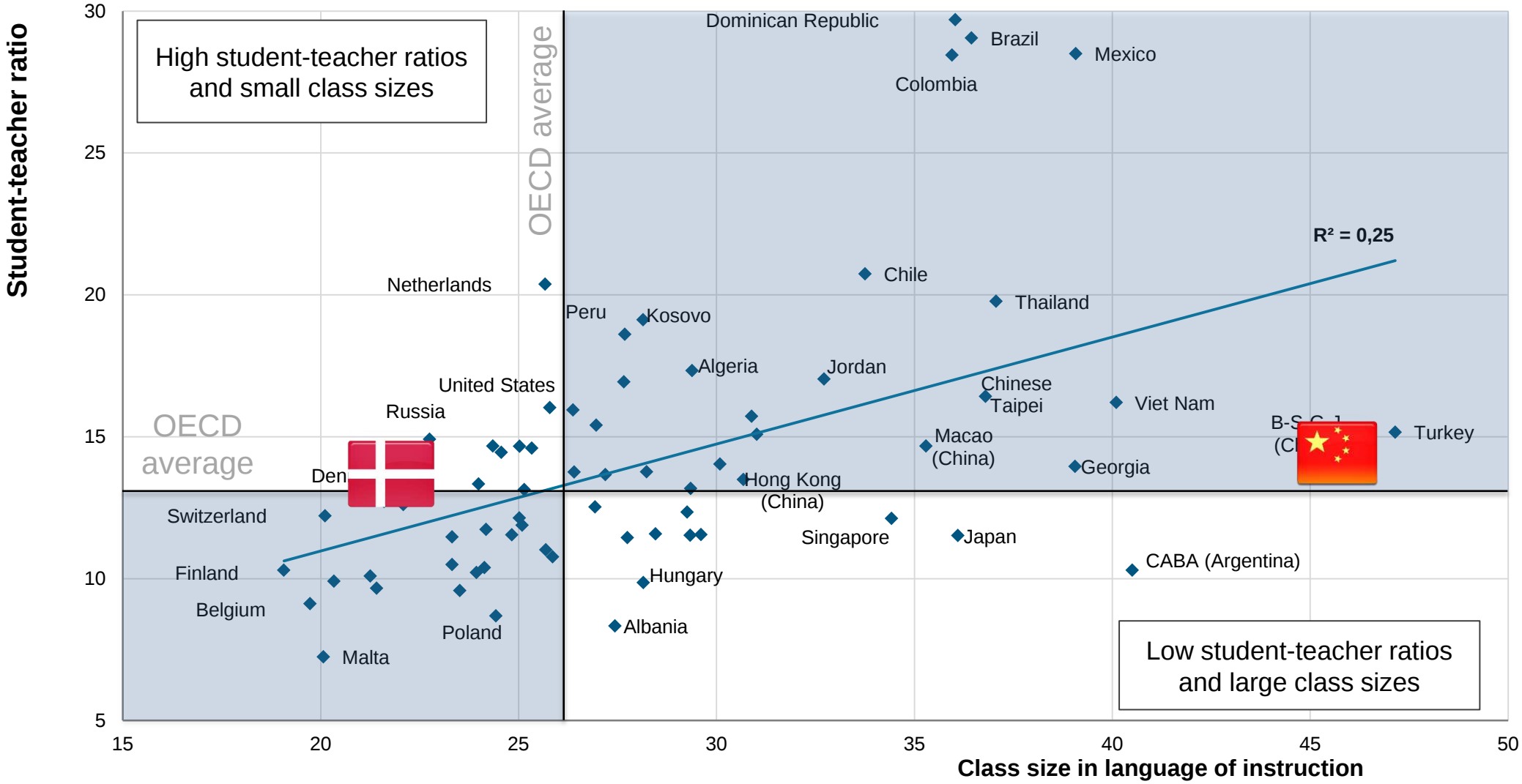
Percentage of lower secondary teachers who report doing the following activities at least once per month



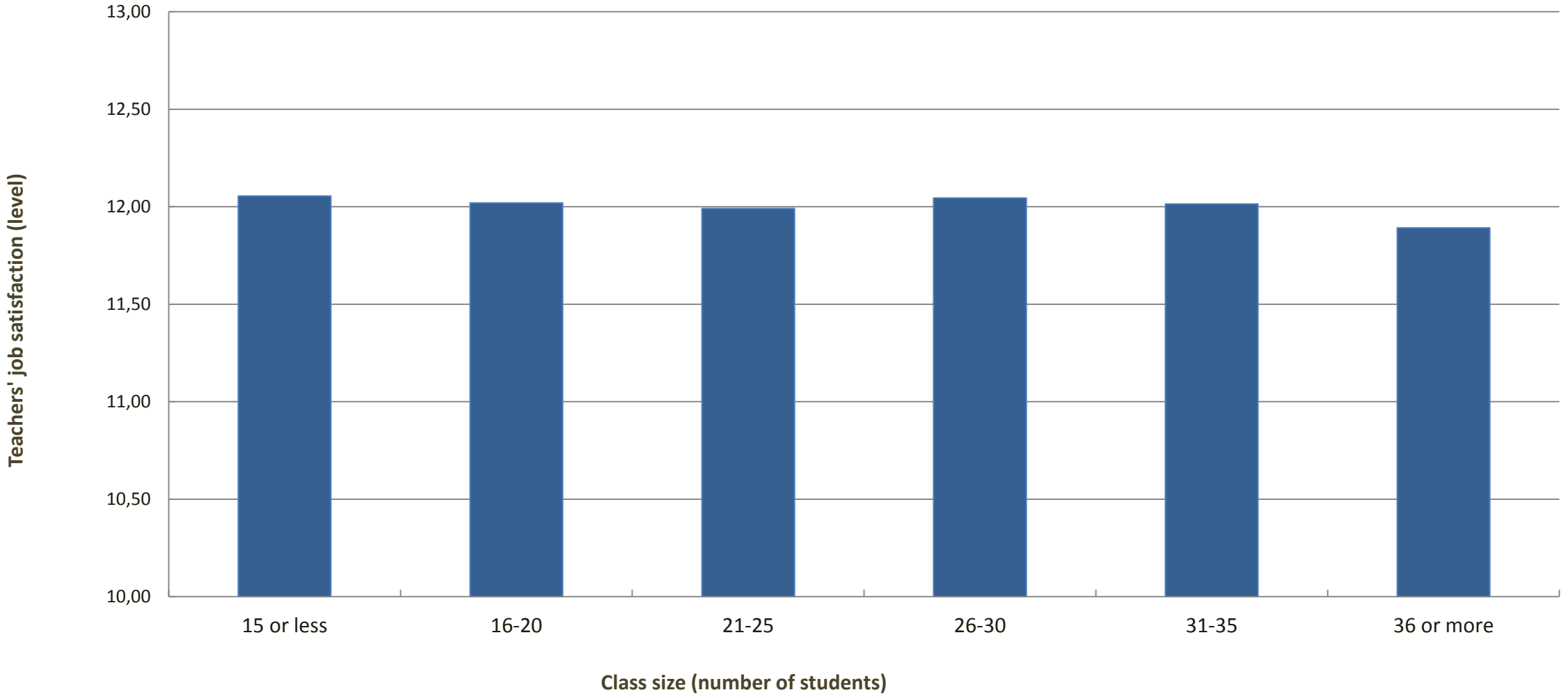
Teachers' self-efficacy and professional collaboration



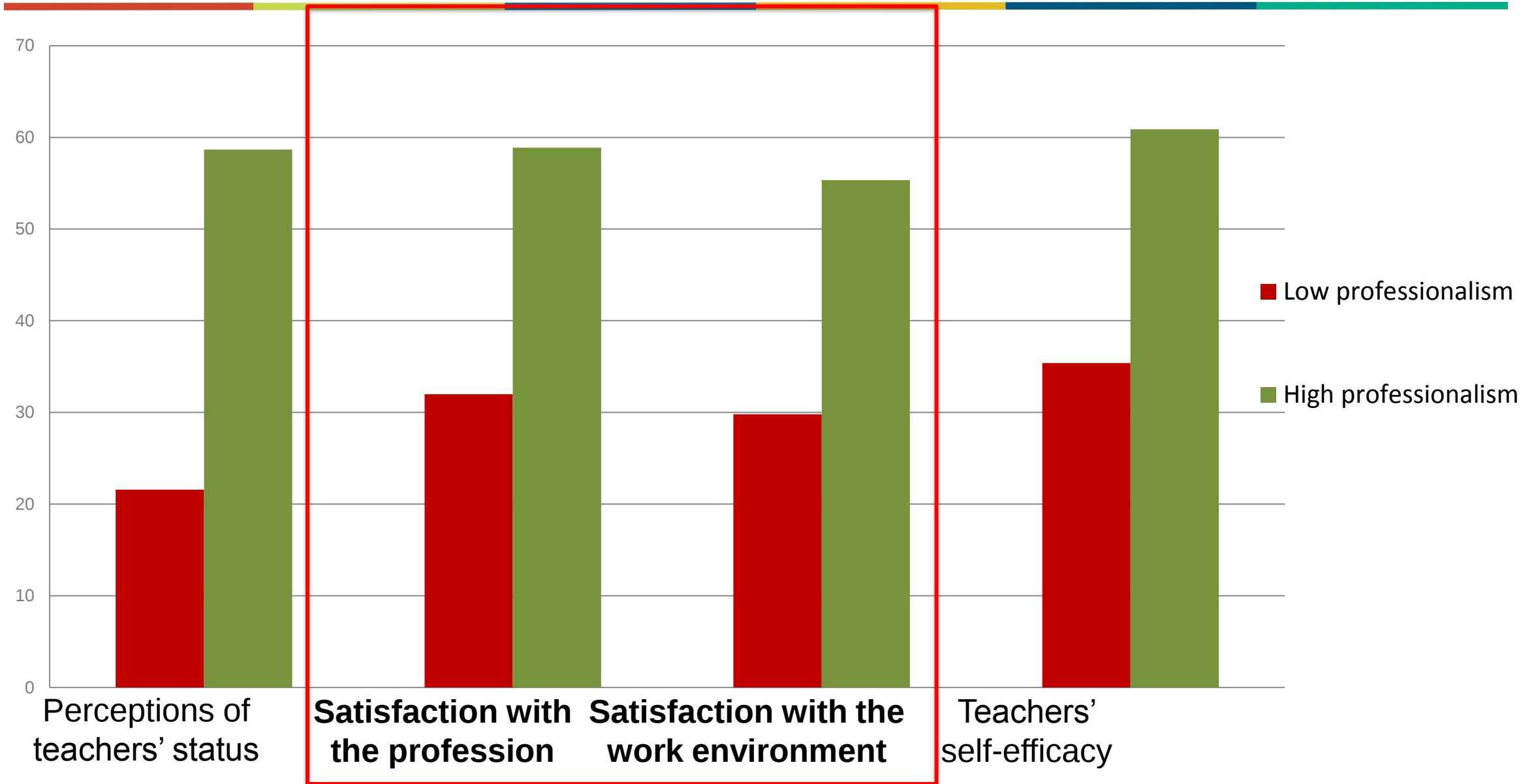
Student-teacher ratios and class size



Teachers' job satisfaction and class size



Teacher job satisfaction and professionalism



When fast gets really fast, being slow to adapt makes education really slow

Industrial systems		World class systems
Routine cognitive skills	Curriculum, instruction and assessment	Complex ways of thinking and working
Some students learn at high levels	Student inclusion	**All** students learn at high levels
Standardisation and compliance	Role of teachers	High-level professional knowledge workers
‘Tayloristic’, industrial	Work organisation	Flat, collegial, entrepreneurial
Primarily to authorities	Accountability	Primarily to peers and stakeholders

Thank you

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- **Country implementation examples**
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- **Country notes**

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