



Schooling disrupted – schooling rethought

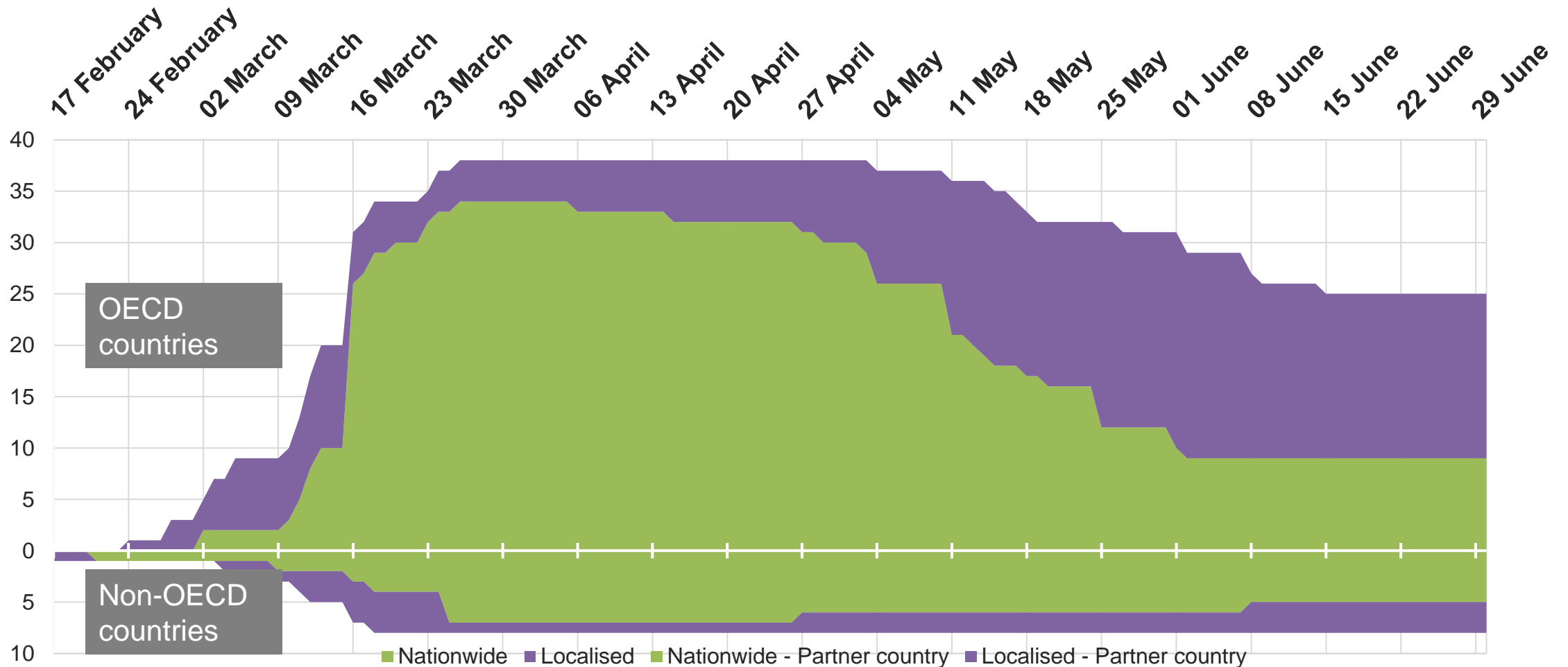
Washington


Andreas Schleicher

By the end of June, schools across the OECD had experienced some form of closure lasting an average of 14 weeks

Figure D1.4

Number of countries with school closures due to COVID19



- 
- **1.5bn** students (and their parents) locked out from their schools
 - **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 to embrace wider range of **cognitive, social and emotional skills**
 - But lots of highly **innovative learning environments** emerging

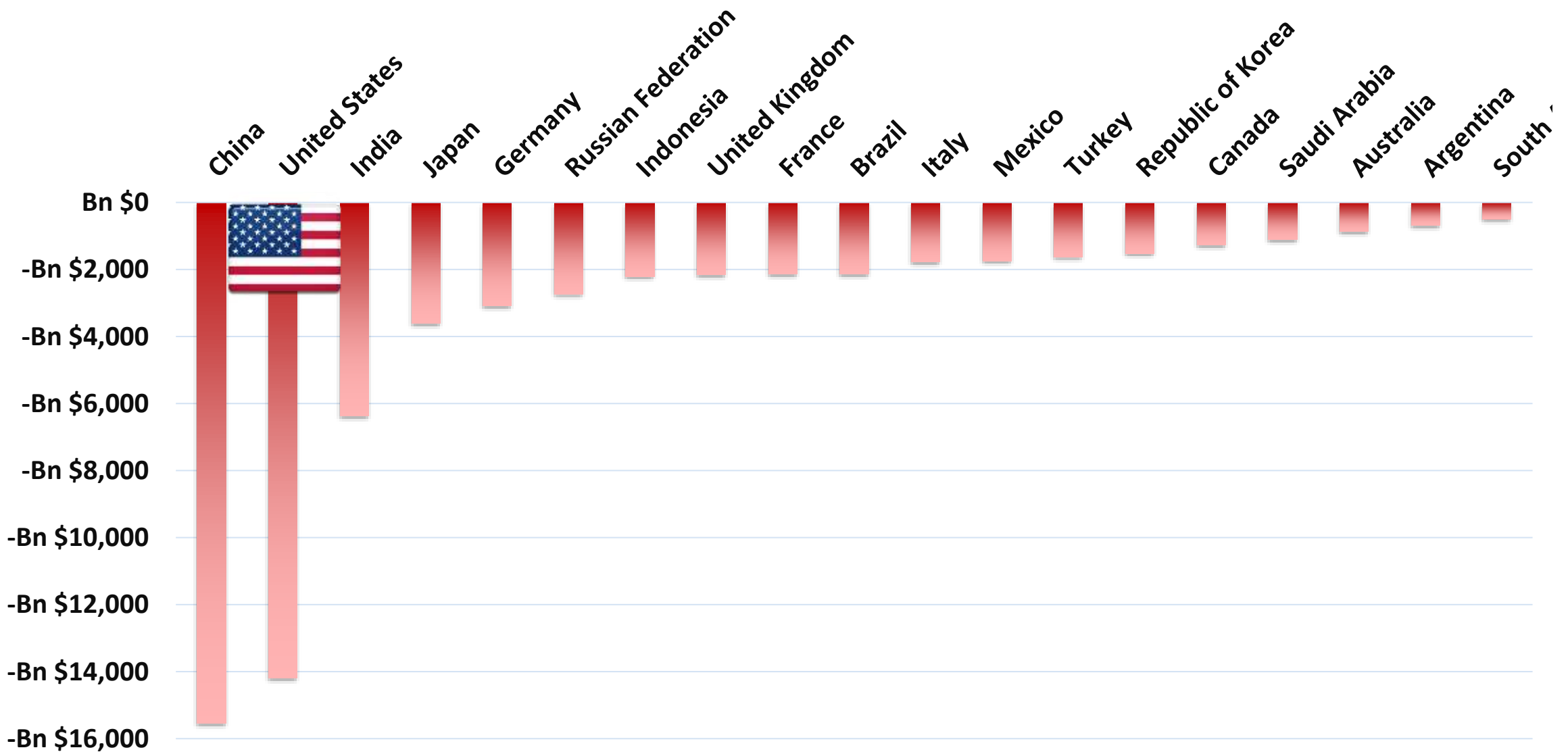
Lost individual income due to Corona-induced learning loss

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.

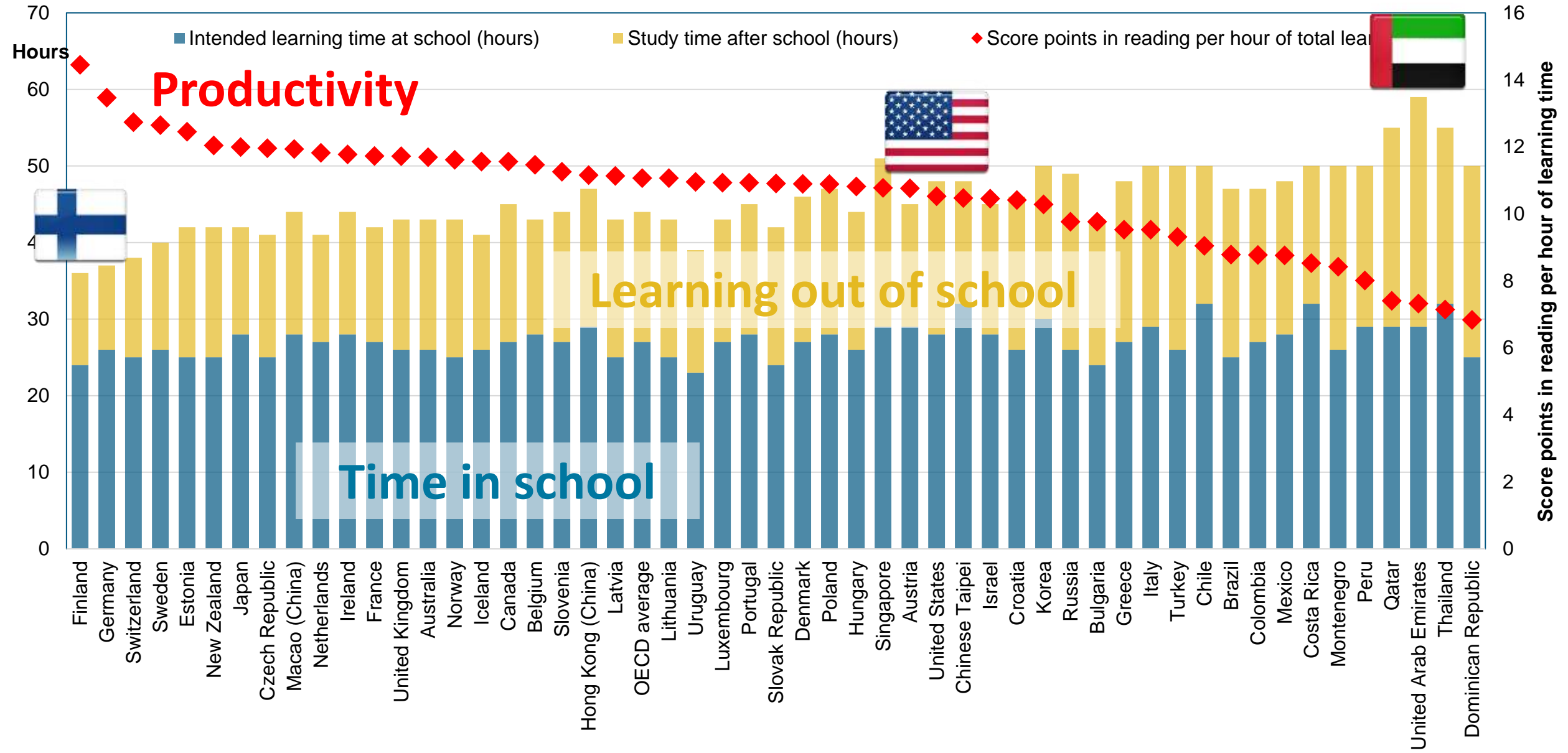
Present value of **lost GDP** due to Corona-induced learning loss (average 1/3 school year lost)



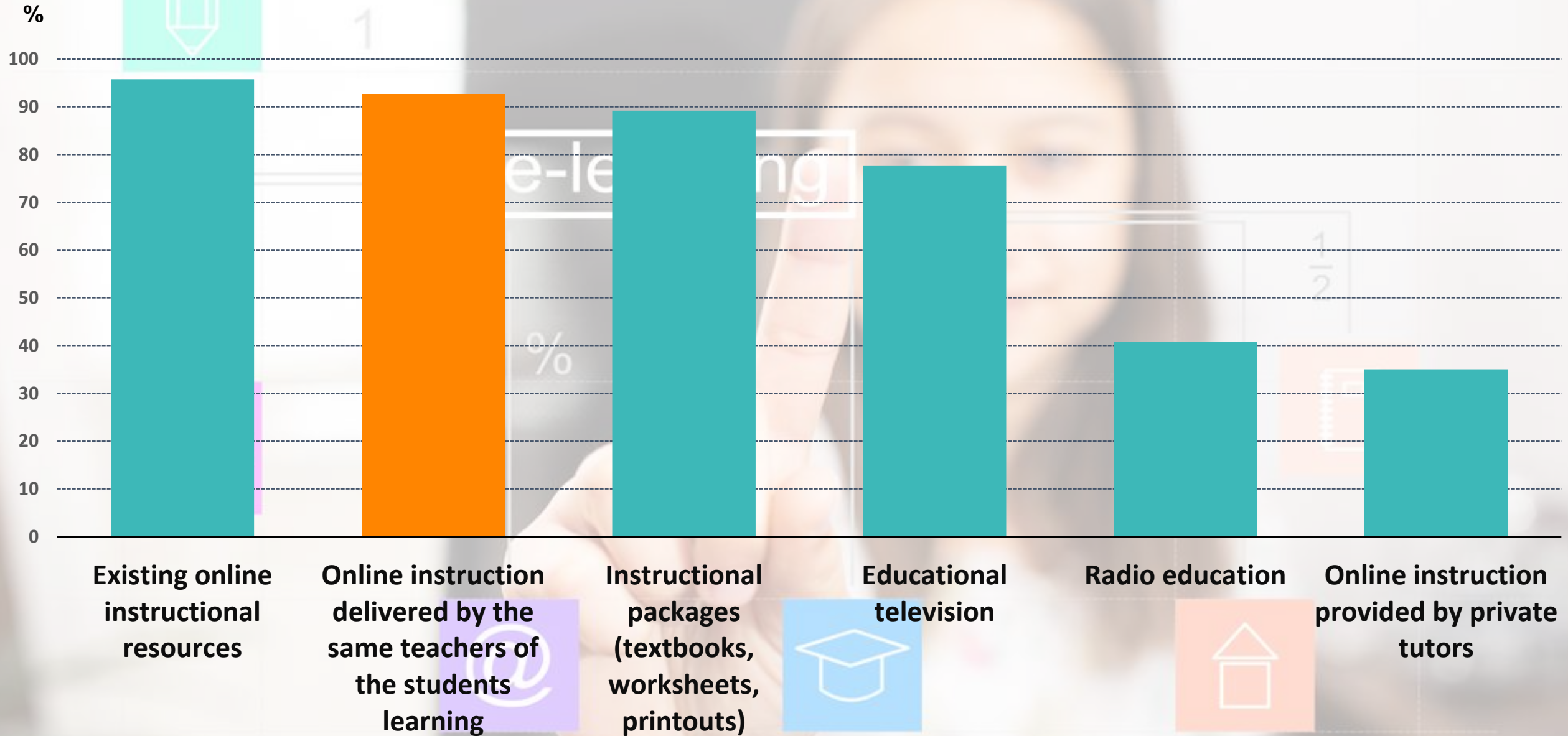
Source: Hanushek and Woessmann (OECD, 2020)



PISA 2018: Learning time ≠ learning outcomes



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

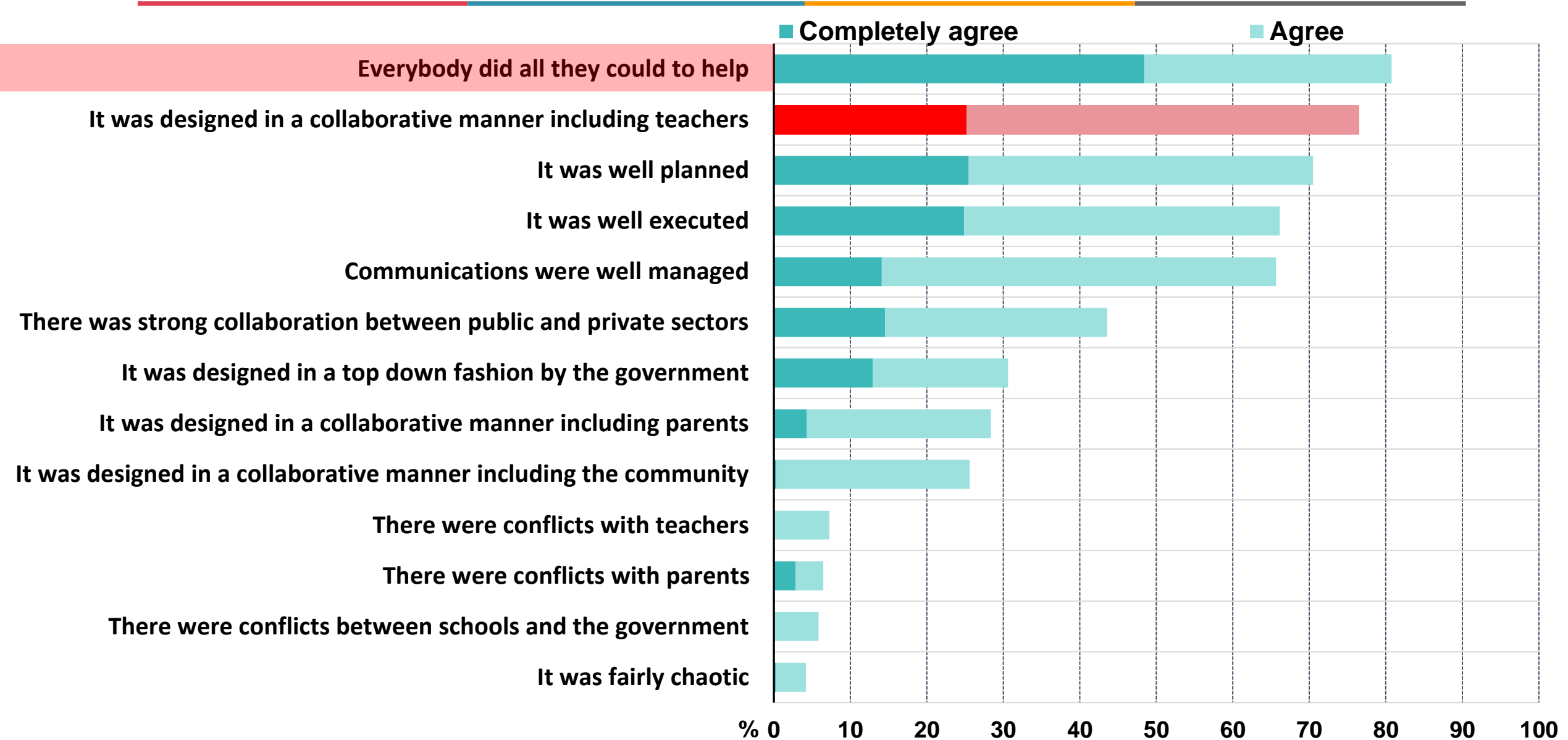




Working together

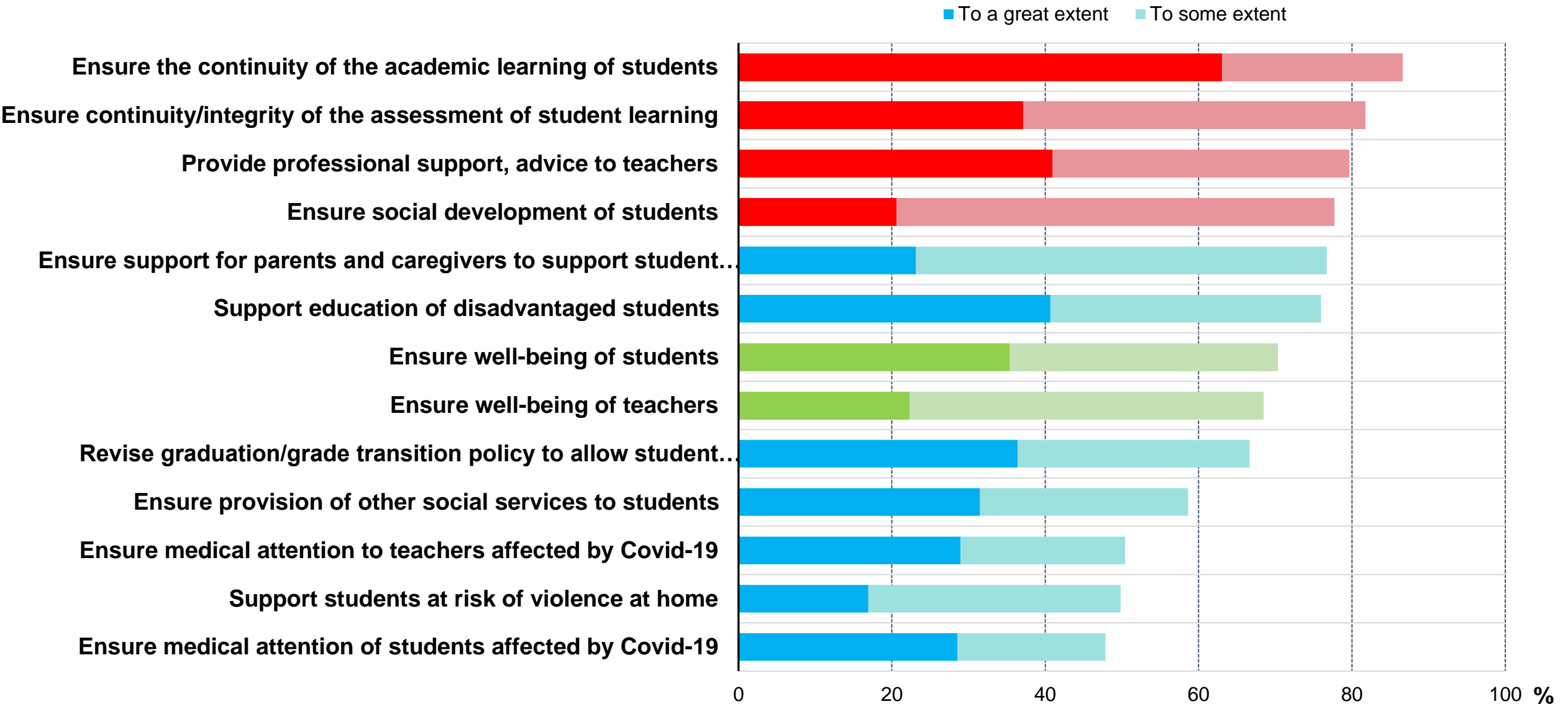
Evaluation of contingency strategies

(Averages across 36 countries, May 2020)



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

Table 10

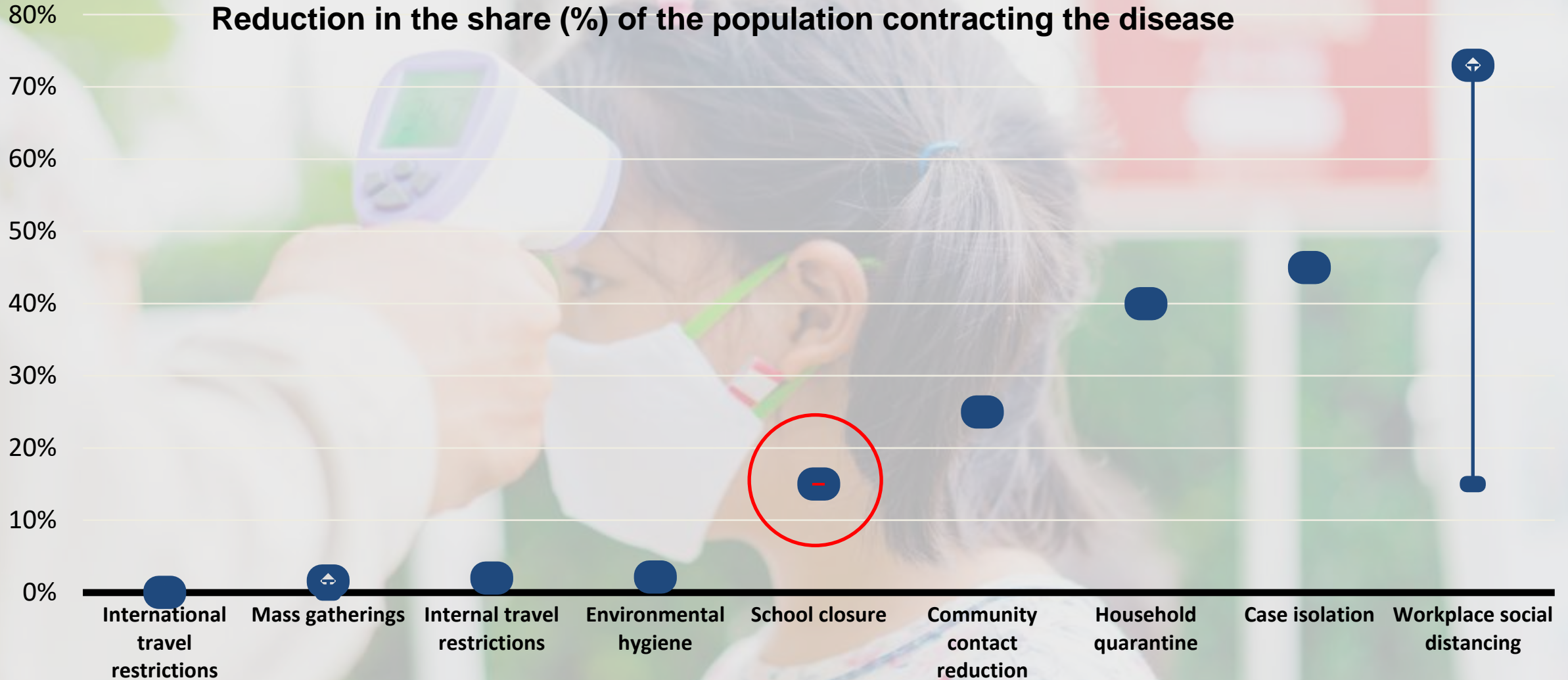




Re-opening schools

Strategies for the new normal

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

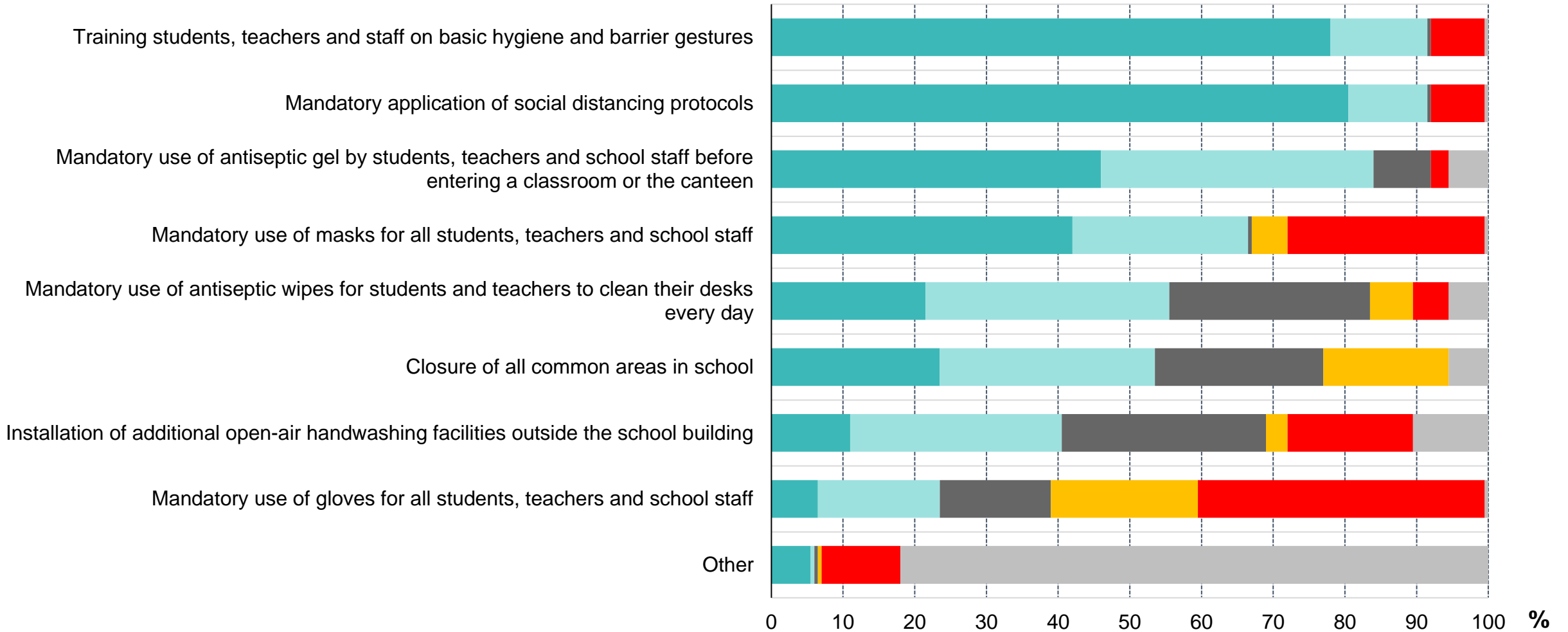


Health measures included in the reopening plans

(Averages across 36 countries, May 2020)

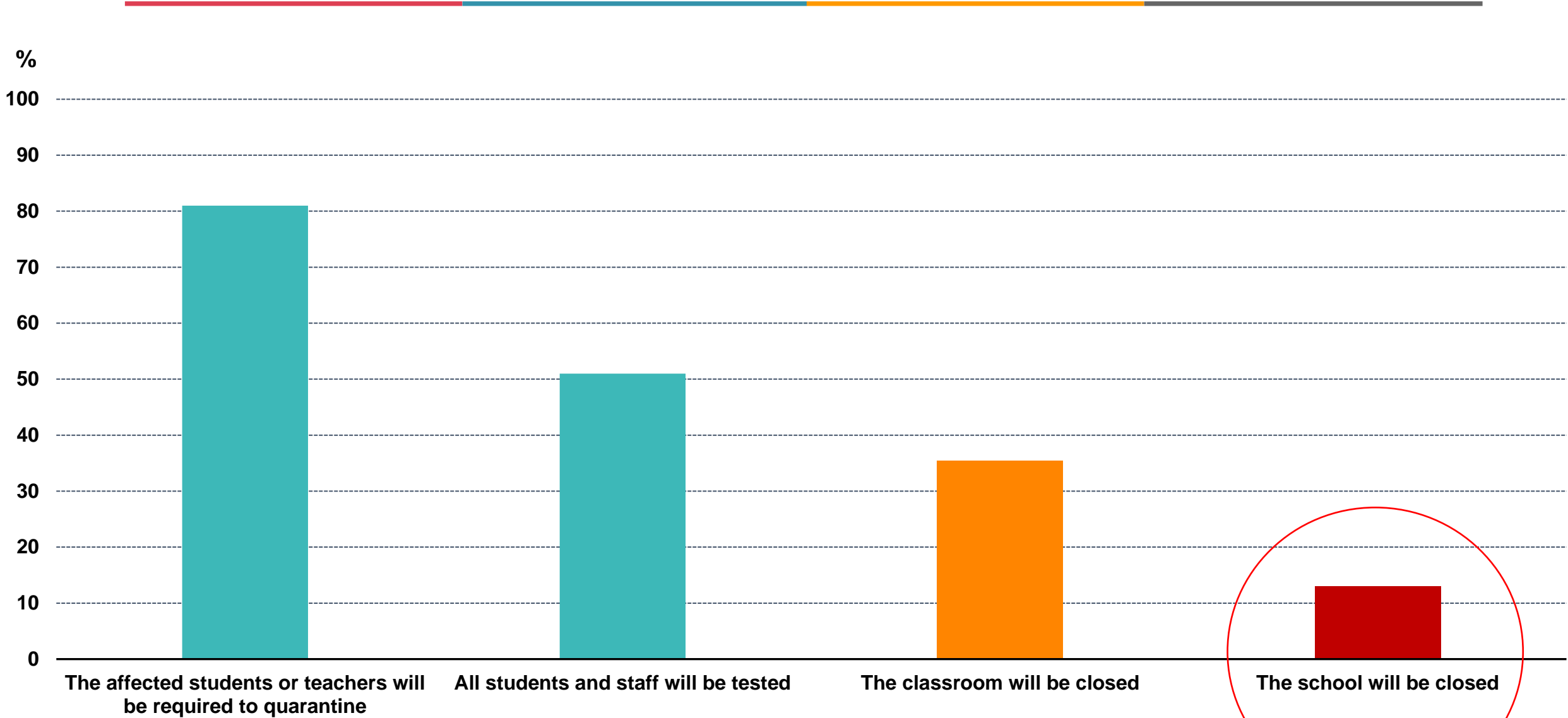
Table 22

■ Extremely likely ■ Somewhat likely ■ Neither likely nor unlikely ■ Somewhat unlikely ■ Extremely unlikely ■ No answer



Health measures in the reopening plans to respond to **new Covid-19 cases**

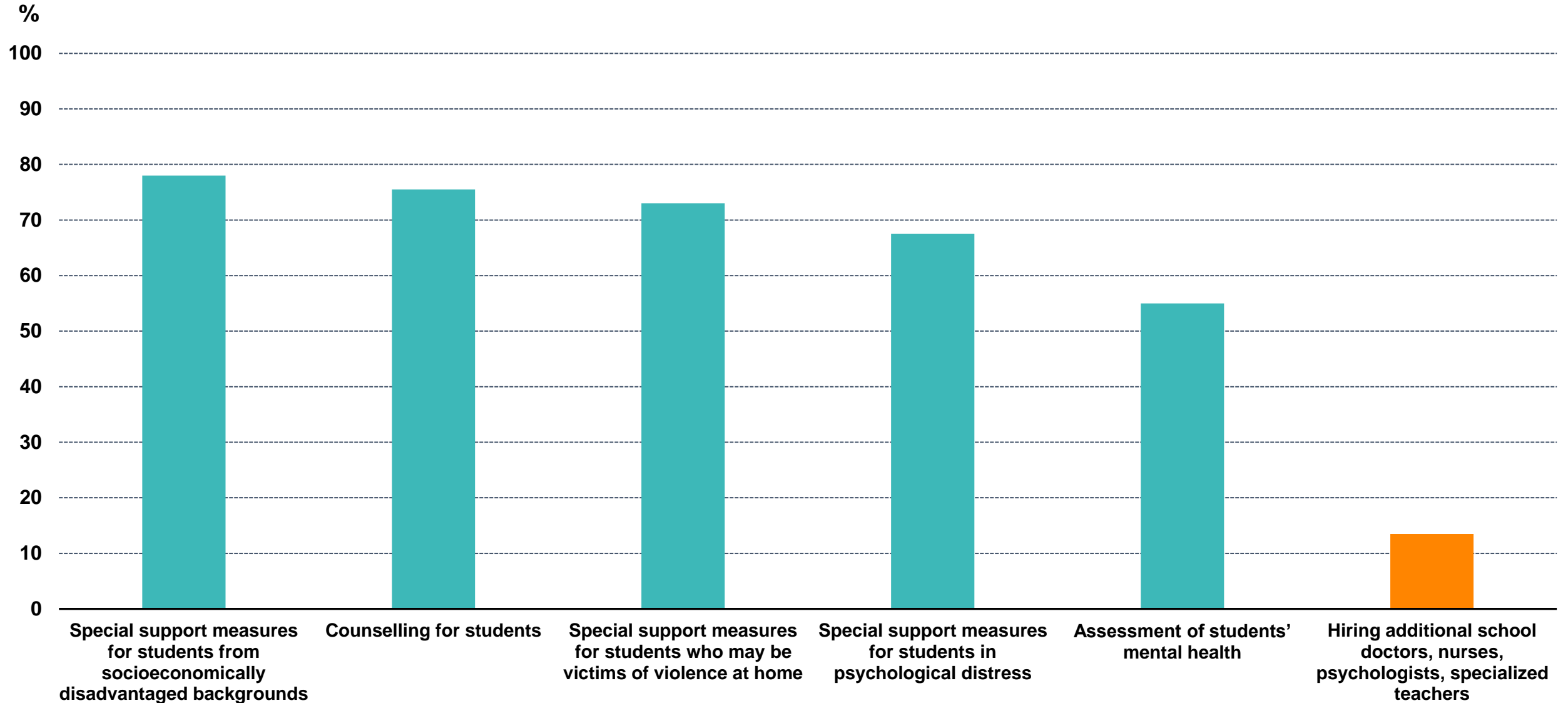
(Averages across 36 countries, May 2020)



Plans to reopen to address **well-being of students**

(Averages across 36 countries, May 2020)

Table 19



$$f(x) = 3x + 4$$

1

e-learning

7

%

$\frac{1}{2}$

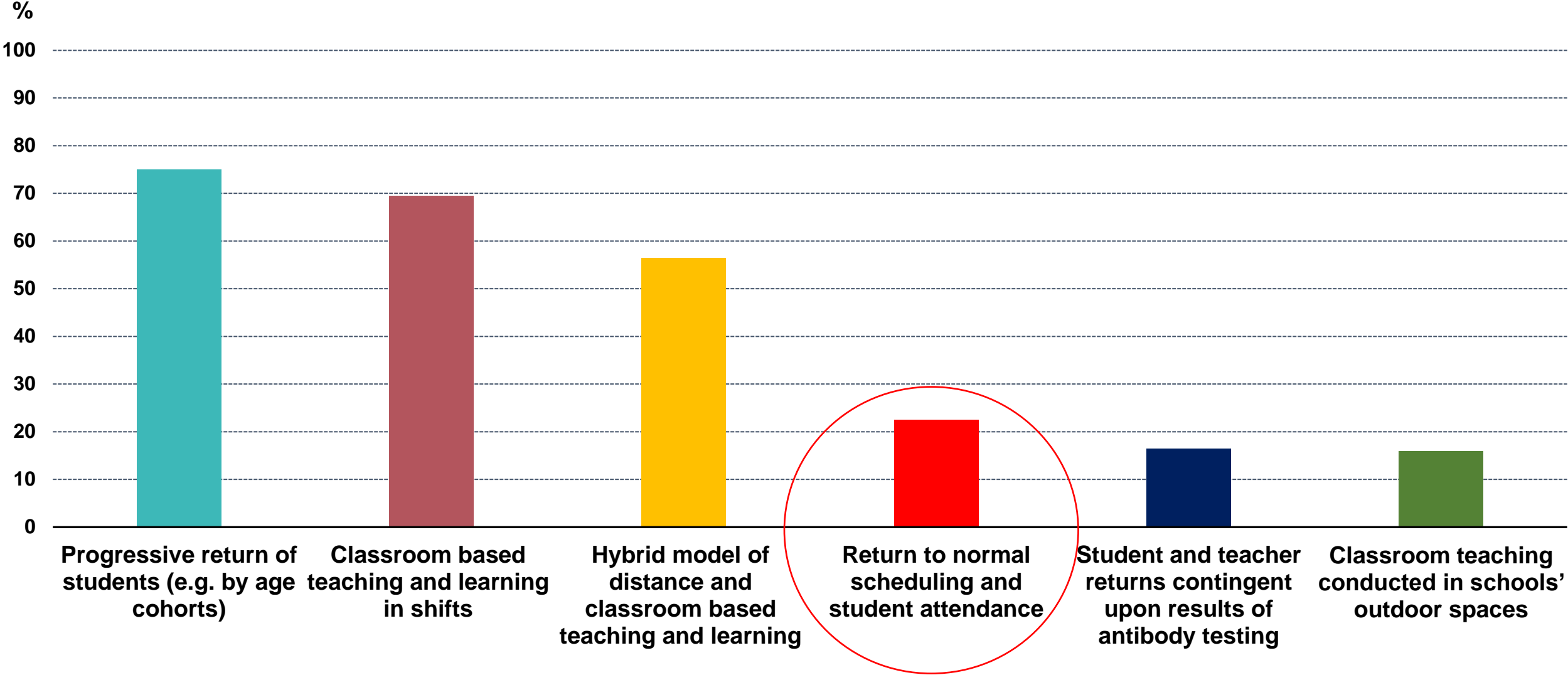
**Technology can amplify and scale
innovative teaching**



What strategies will be used for school reopening?

(Averages across 36 countries, May 2020)

Table 17

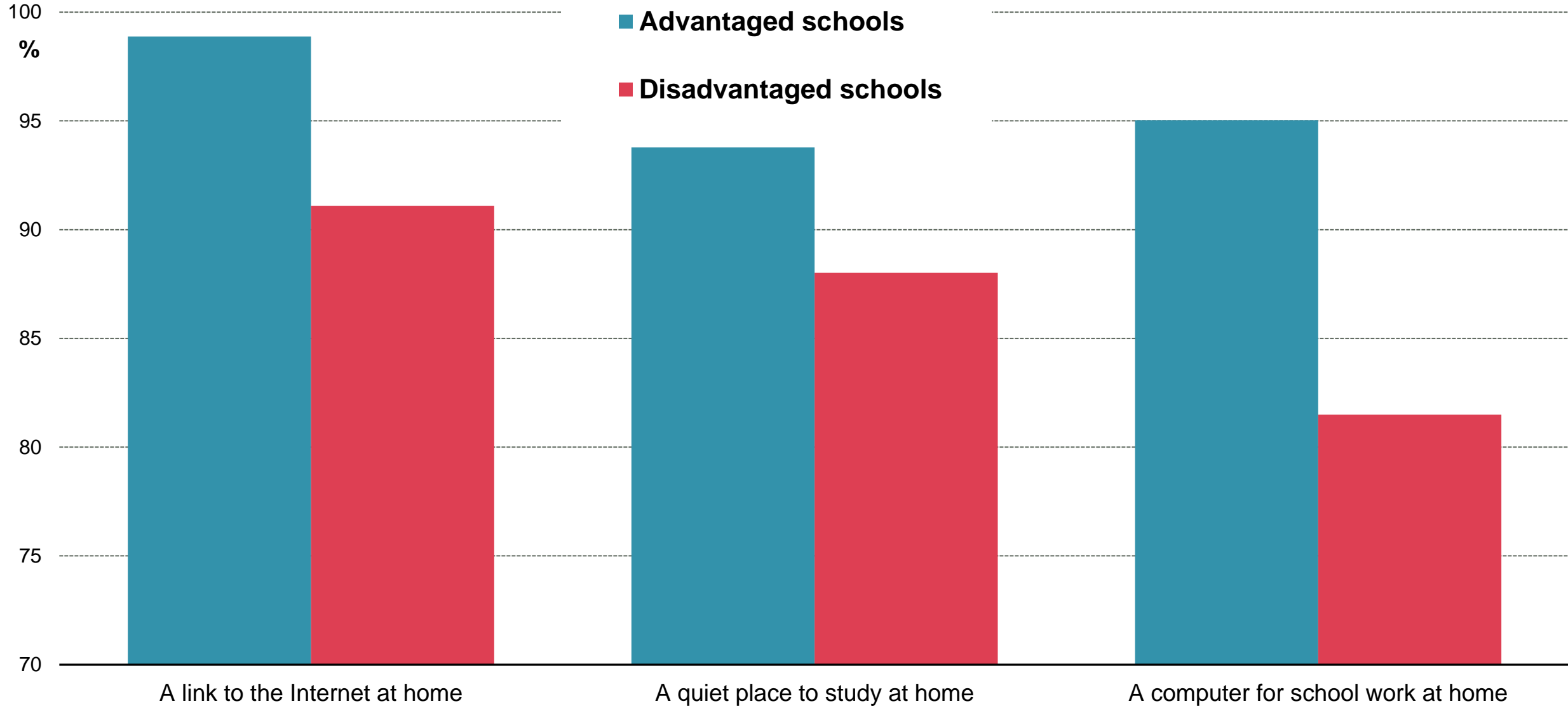




Students' online learning environment **at home**

OECD average

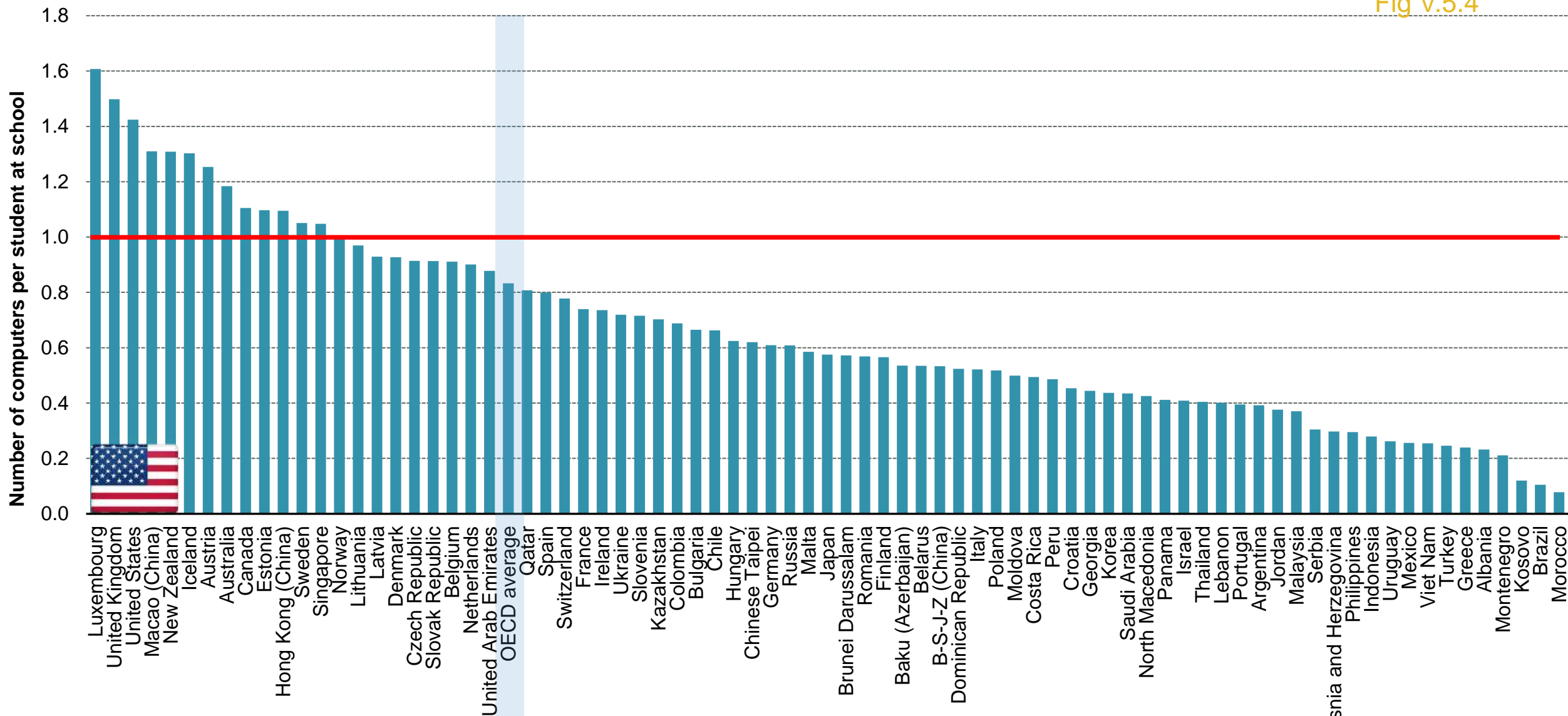
Fig V.9.1





School computers per student

Fig V.5.4



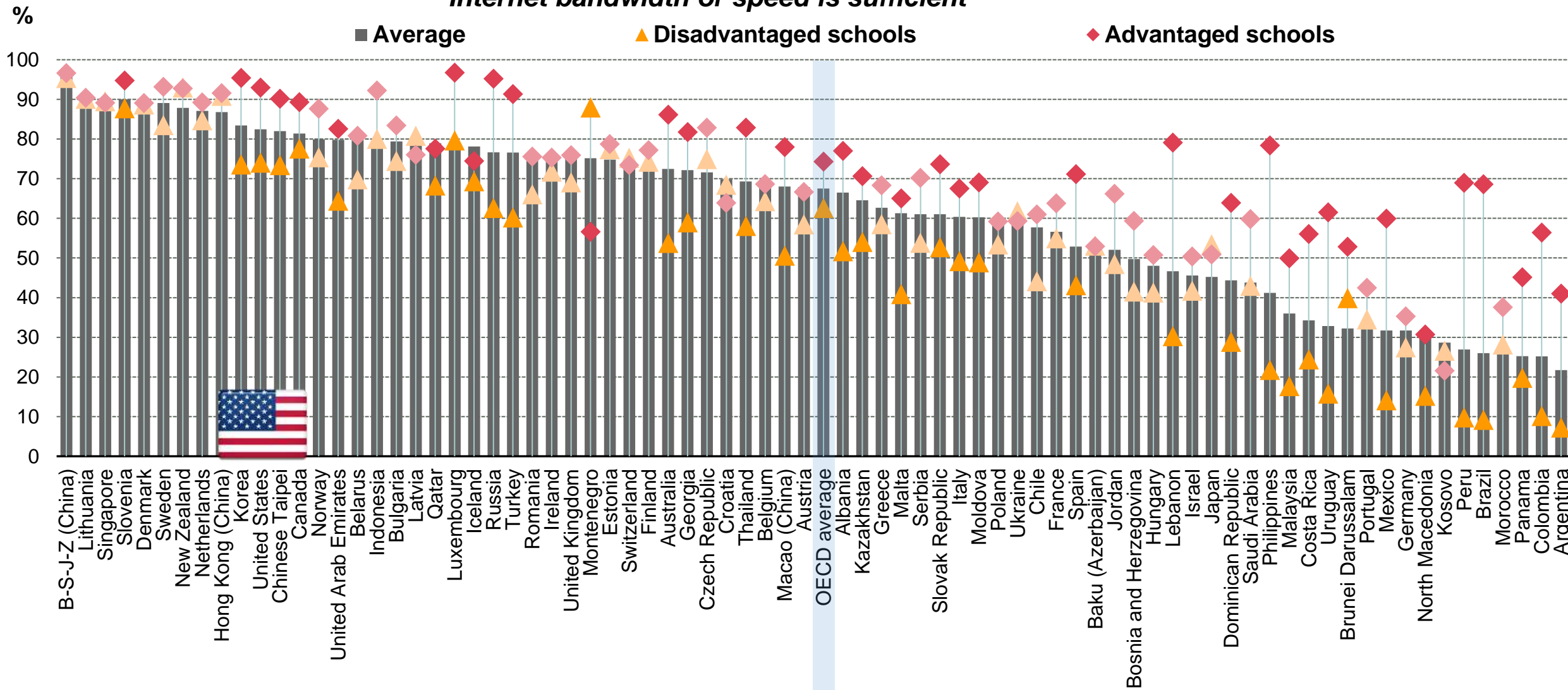
Based on principals' reports



Sufficient Internet bandwidth or speed

Fig A5

Percentage of students in schools whose principal agreed or strongly agreed that the school's Internet bandwidth or speed is sufficient

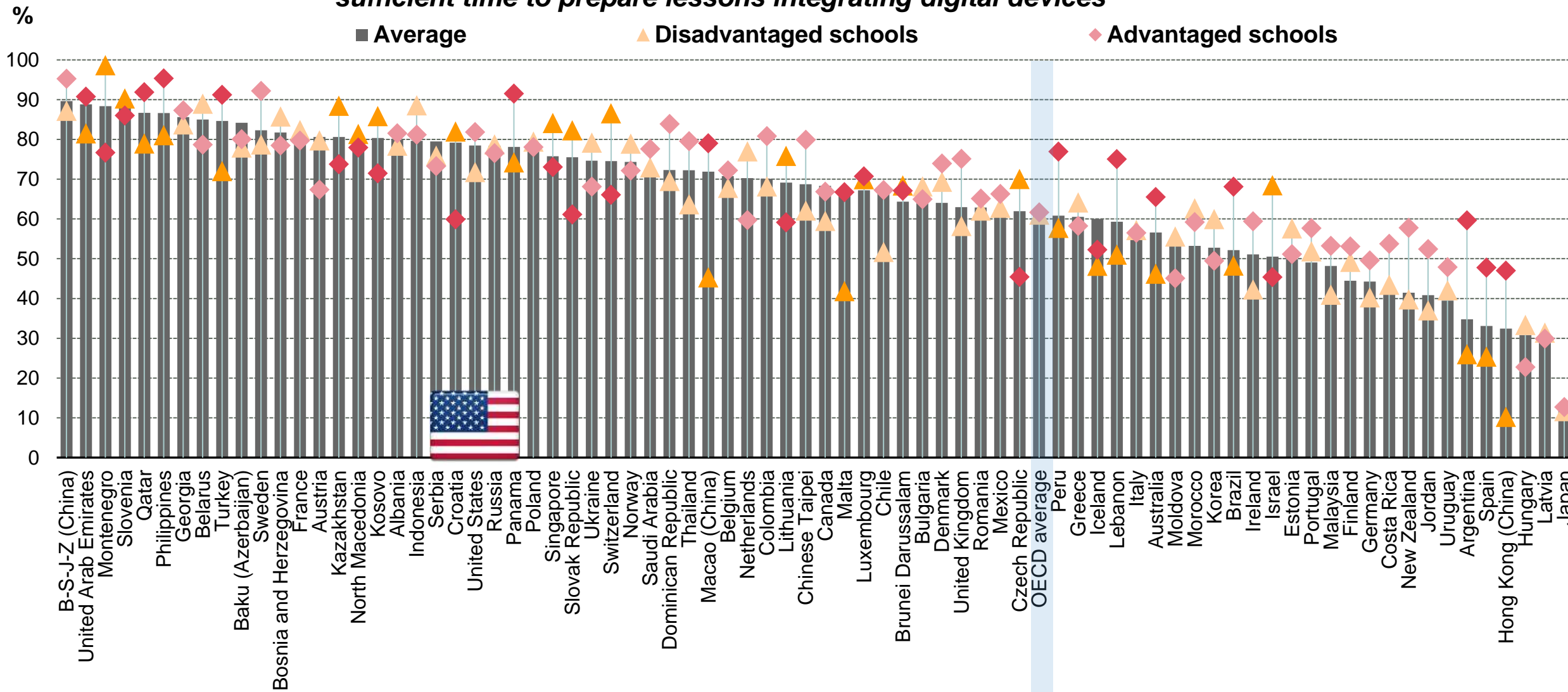




Teachers have sufficient time to prepare lessons integrating digital devices

Fig A10

Percentage of students in schools whose principal agreed or strongly agreed that teachers have sufficient time to prepare lessons integrating digital devices

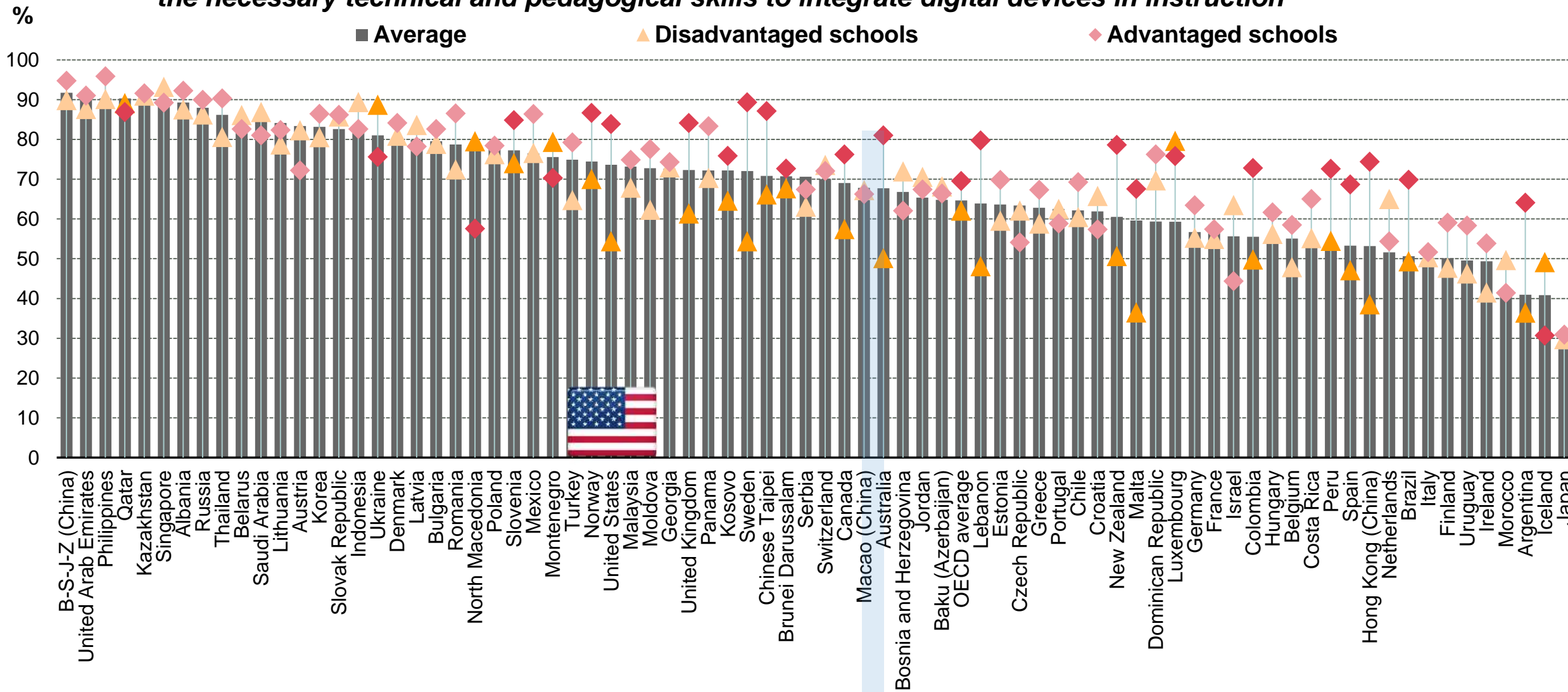




Teachers have the necessary technical and pedagogical skills to integrate digital devices in instruction

Fig A9

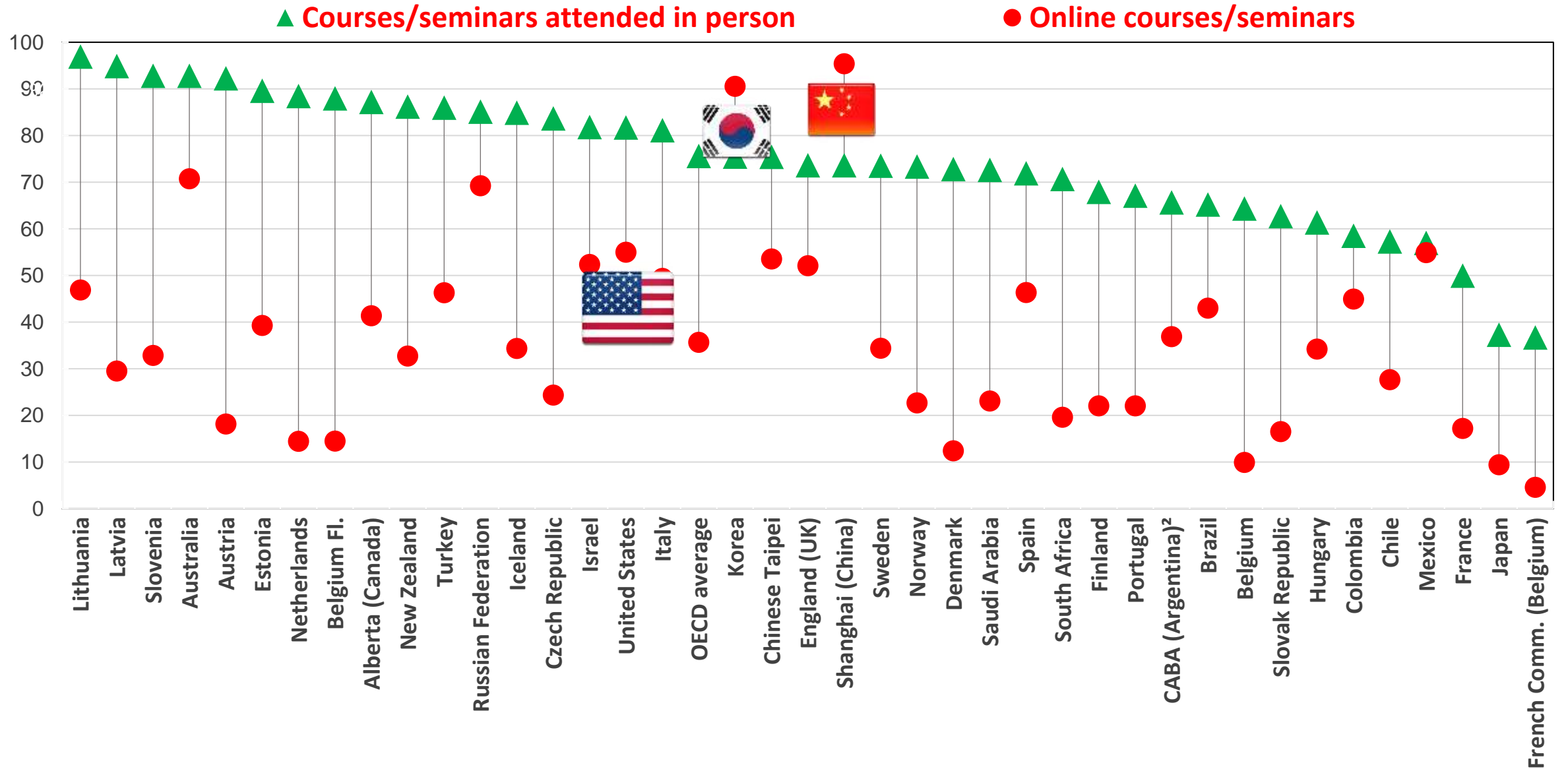
Percentage of students in schools whose principal agreed or strongly agreed that teachers have the necessary technical and pedagogical skills to integrate digital devices in instruction





Teachers do not rely heavily on distance learning

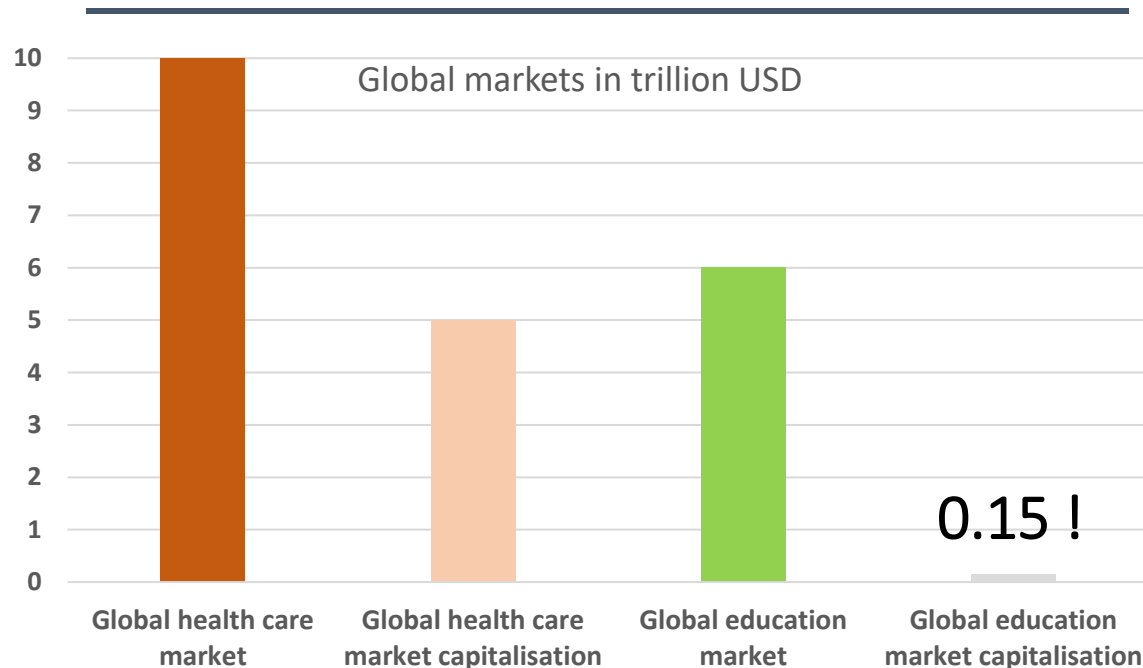
Percentage of lower secondary teachers who participated in selected types of professional development (2018)



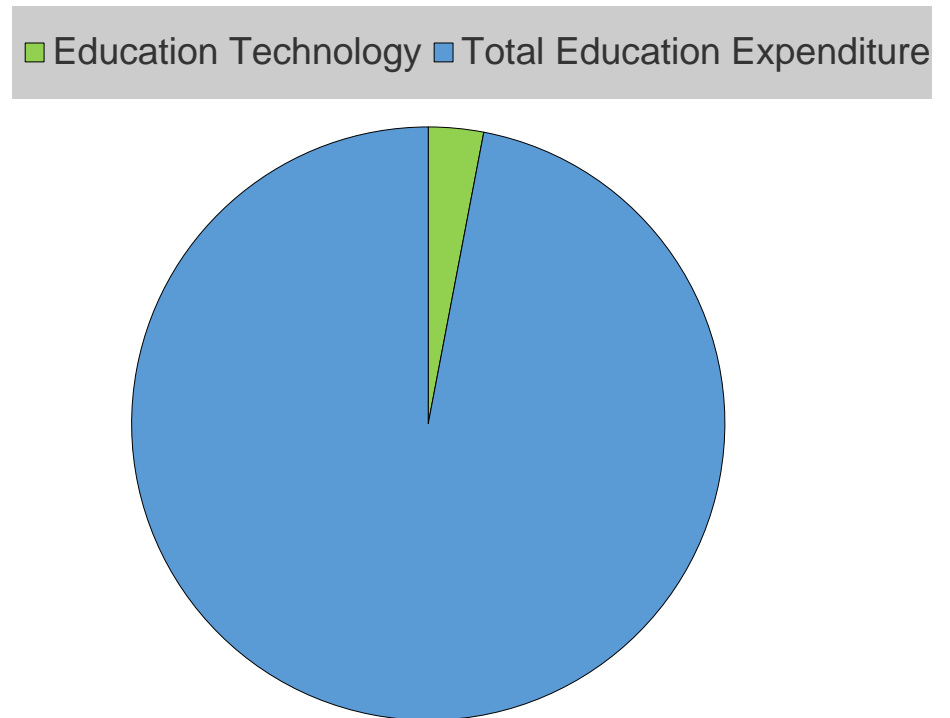
Capital flows and digitalisation of education

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

Global vs Education Capital Flows

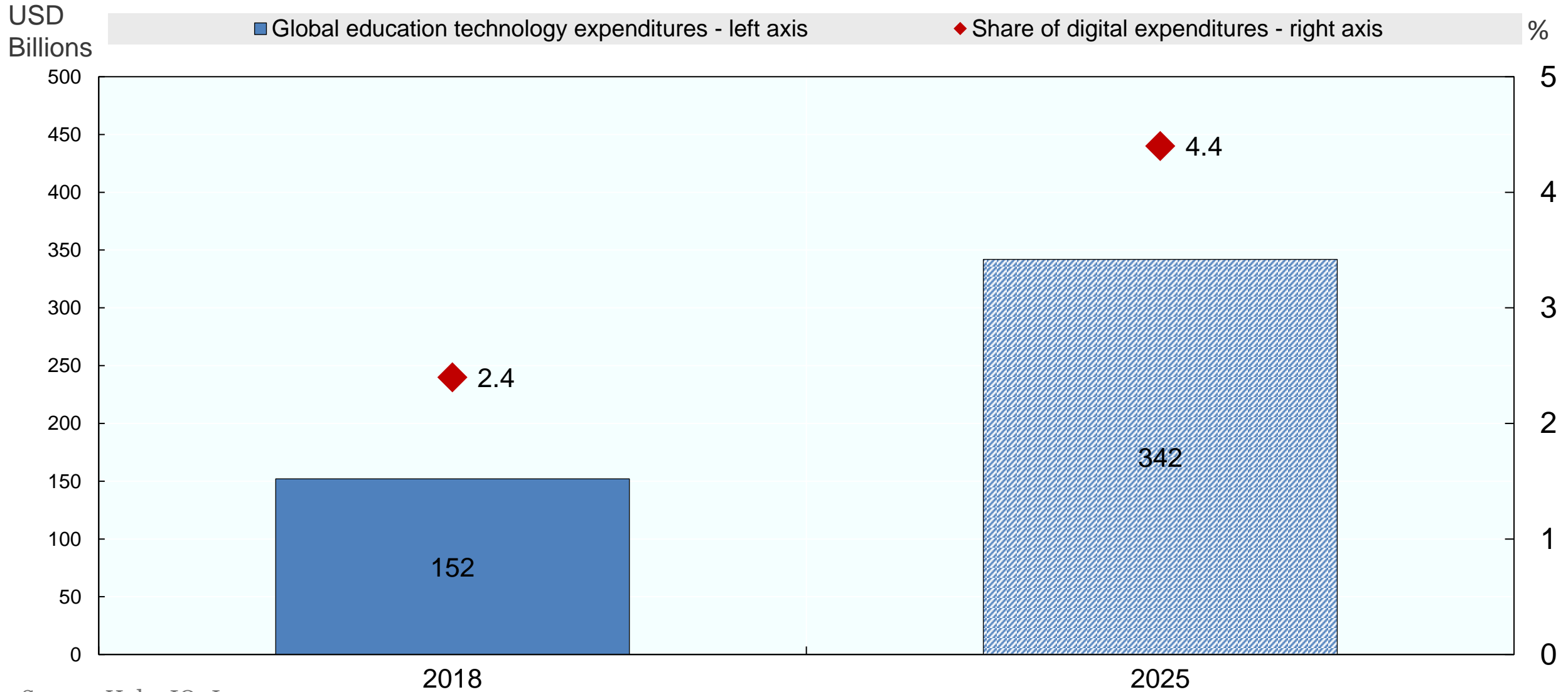


<3% of global education expenditure on technology



EdTech expenditure

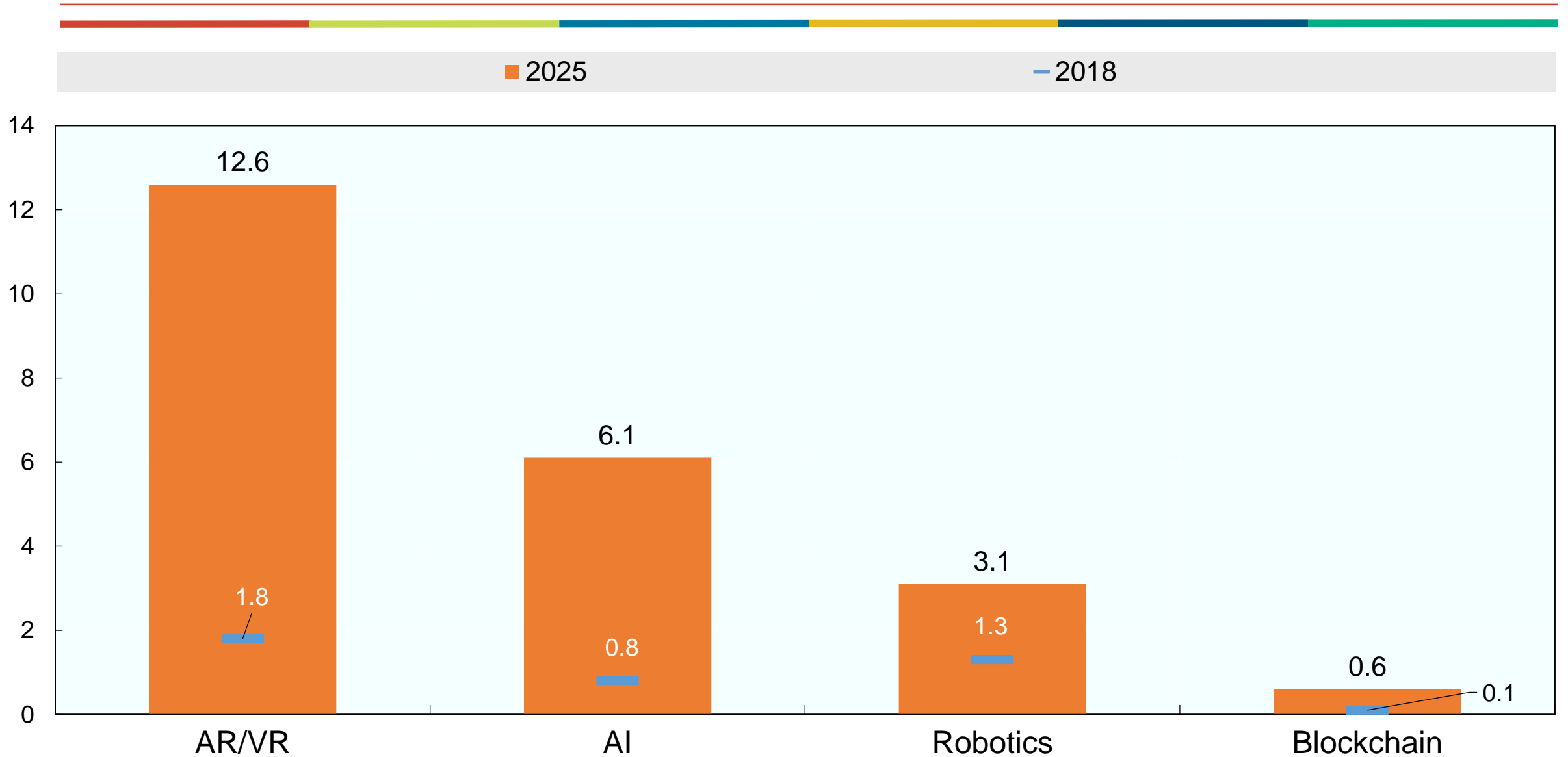
Digital expenditures are forecast to grow fast from USD 152 B to 342 B by 2025



Source: HolonIQ, January 2019

EdTech expenditure

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



Source: HolonIQ, January 2019

New learning experiences

- Many online and distance learning and other innovative approaches such as AR, VR and AI were created, adapted and expanded.

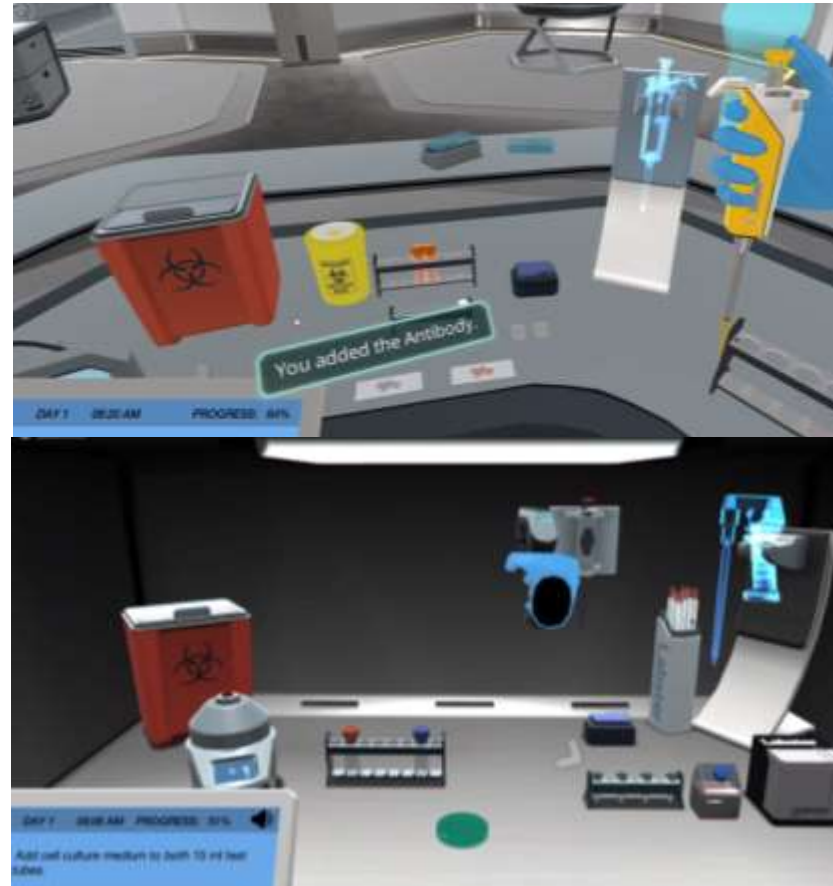


Image sources: Electude Classroom and Labster Labs' virtual labs; Oxford University's LIFE project, a smartphone-based virtual learning platform

Learning analytics

- Learning analytics helps educators personalise learning
 - in real time
 - as a reflective tool
- Data come from sensors, learning management systems and digital activities of learners
 - When should you shift to a new activity?
 - Are you losing the attention of learners?
 - How do you structure instruction time (lecture, small group, discussion, assessment, practice, etc.)?
 - Which students do you talk to and support the most?



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



Blockchain in accreditation



Verification of degrees and credentials

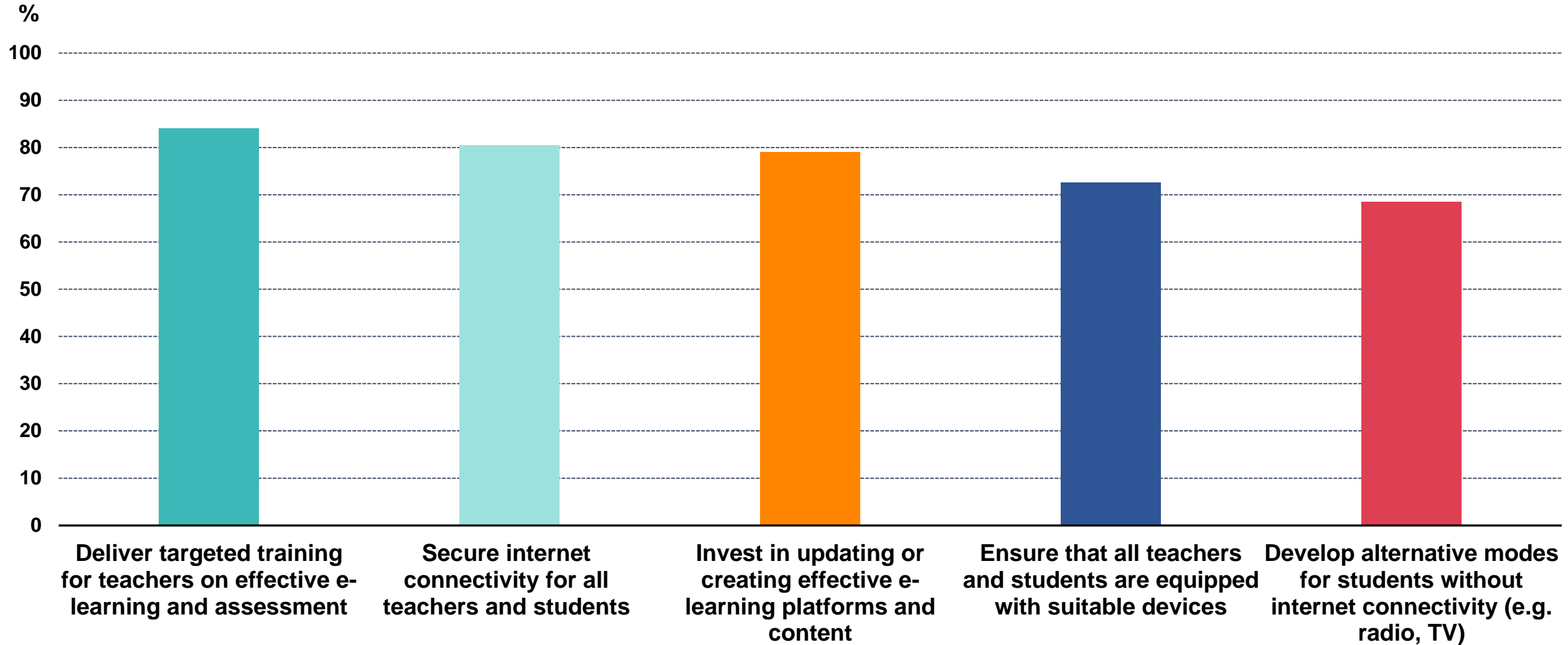
Development of digital degrees

Secure and trustworthy transfer of academic records

Lowers risks of privacy breach (given its decentralised nature)

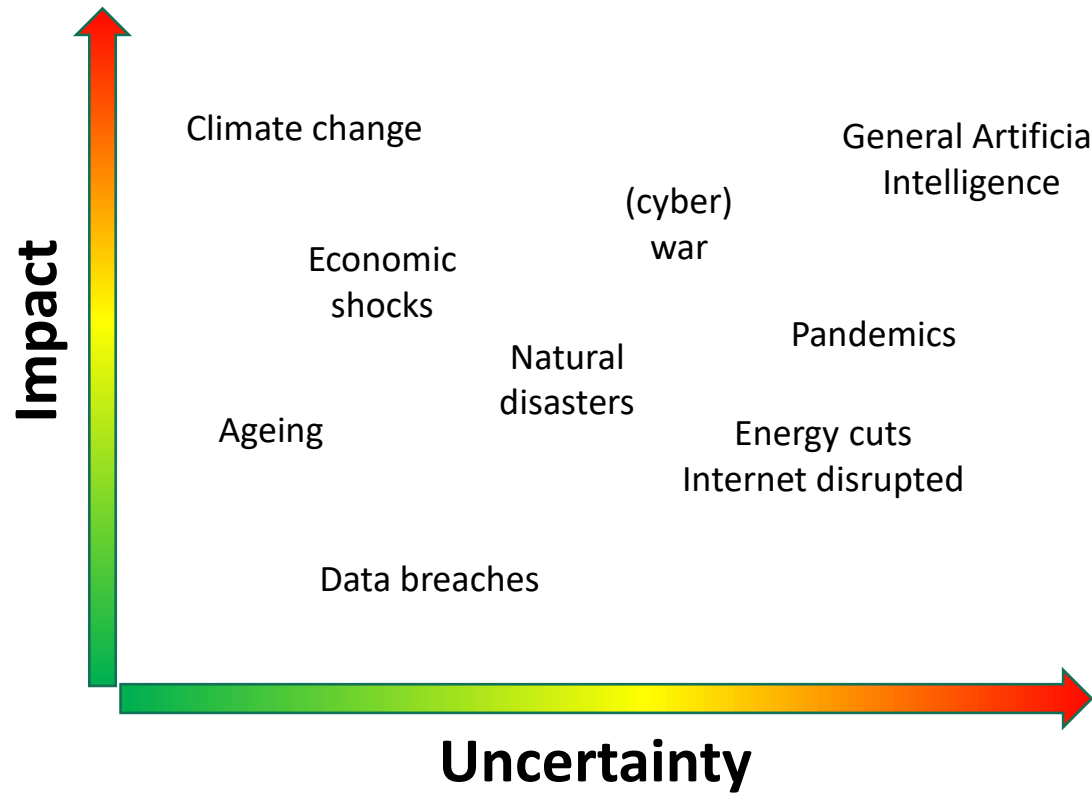
E-learning readiness in reopening plans

(Averages across 36 countries, May 2020)



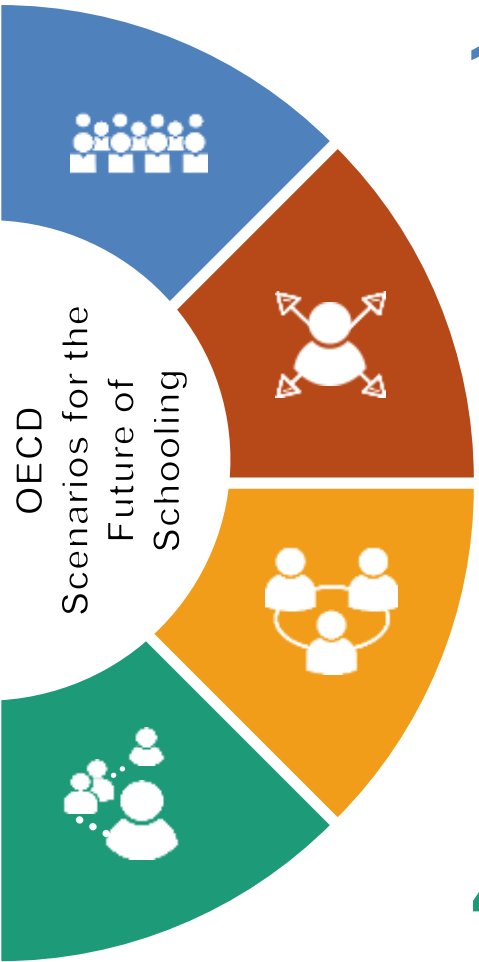
The future will continue to surprise us!

Some events are foreseeable and have a small impact...



Others can be highly disruptive!

Four OECD Scenarios for the Future of Schooling



1 SCHOOLING EXTENDED

2 EDUCATION OUTSOURCED

3 SCHOOLS AS LEARNING HUBS

4 LEARN-AS-YOU-GO



Scenario 1: Schooling Extended



Participation in formal education continues to expand. International collaboration and technological advances support more individualised learning. The structures and processes of schooling remain.



Goals and functions



Governance and geopolitics



Organisation and structures



The teaching workforce



Educational monopolies remain: Schools are key actors in socialisation, qualification, care and credentialing.



International collaboration and digital technologies power more personalised teaching and learning practices.



Distinct teacher corps remain, although with new divisions of tasks and greater economies of scale.

Scenario 1: Schooling Extended



- Innovating large, bureaucratic schooling systems may require a high degree of consensus and communication among various stakeholders. Can such systems be agile and adapt quickly when needed?
- What would the effects of massive digitalisation of schools be in terms of deployment and distribution of human resources? On teachers' professional judgement and accountability?

Scenario 2: Education Outsourced



Traditional schooling systems break down as society becomes more directly involved in educating its citizens. Learning takes place through more diverse, privatised and flexible arrangements, with digital technology a key driver.



Goals and functions



Governance and geopolitics



Organisation and structures



The teaching workforce



Fragmentation of demand with self-reliant “clients” looking for flexible services.



Schooling systems as players in a wider (local, national, global) education market. Diversification of structures: multiple organisational forms available to individuals.



Diversity of instructional roles and teaching status operating within and outside of schools.

Scenario 2: Education Outsourced



- How will access to infinite information and training options change the nature of teaching and the role of teachers?
- Remote work and blended learning may drastically blur distinctions between home and school, time for study/work and time for leisure. Can play be a required part of formal education? Should formal education include instruction on leisure?

Scenario 3: Schools as Learning Hubs



Schools remain, but diversity and experimentation have become the norm. Opening the “school walls” connects schools to their communities, favouring ever-changing forms of learning, civic engagement and social innovation.



Goals and functions



Governance and geopolitics



Organisation and structures



The teaching workforce



Strong focus on local decisions; self-organising units in diverse partnerships. Schools as hubs function to organise multiple configurations of local-global resources.



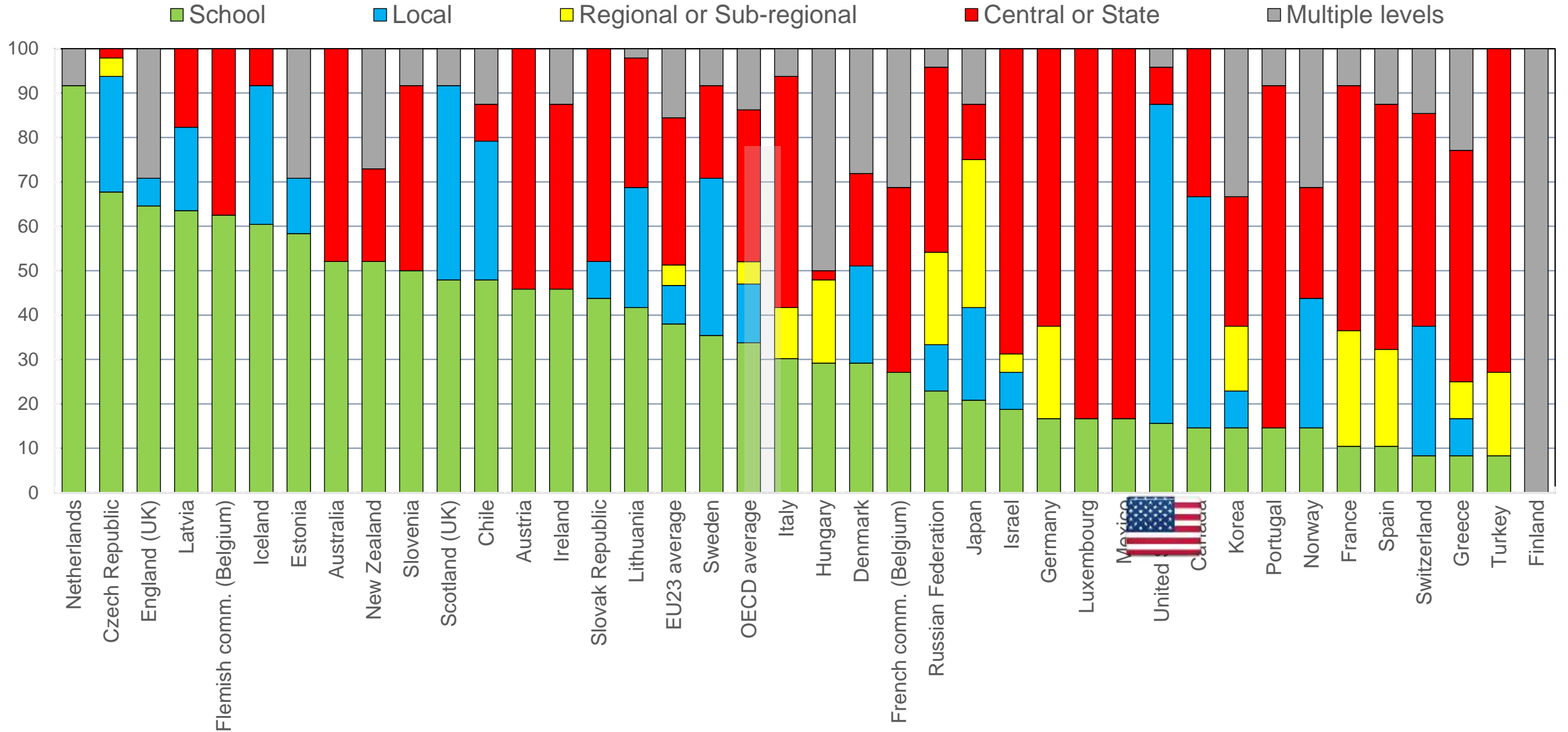
Flexible schooling arrangements permit greater personalisation and community involvement.



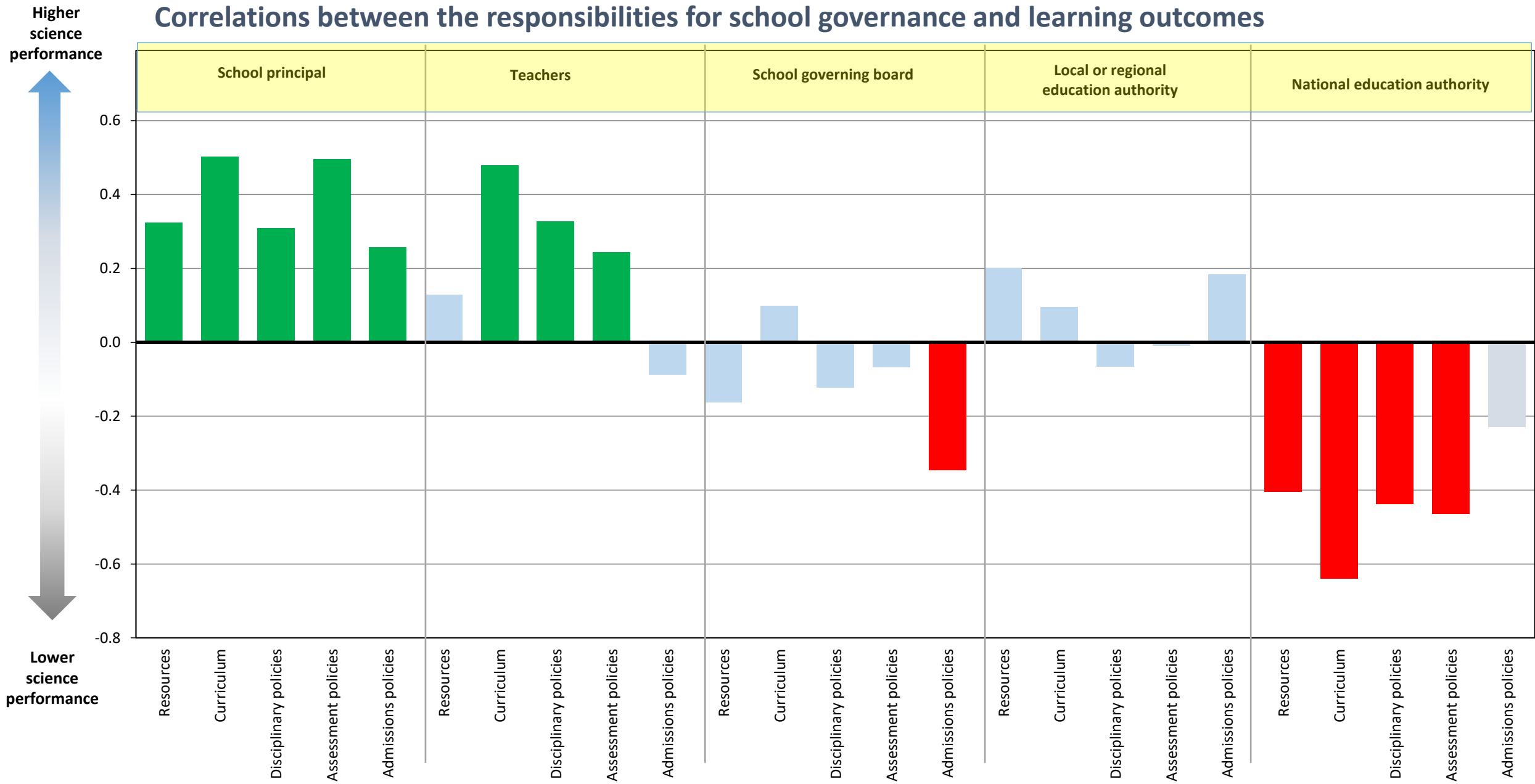
Professional teachers as nodes of wider networks of flexible expertise.

Who decides?

Percentage of decisions taken at each level of government in public lower secondary education (2017)



Correlations between the responsibilities for school governance and learning outcomes



Scenario 3: Schools as Learning Hubs



- Autonomy and community involvement are key to enhancing teaching and learning. But how can schools and teachers meet common system goals when their circumstances and capacity differ greatly from one another?
- Should schools more actively promote intergenerational exchange as a way to promote learning and social cohesion (e.g. via multigrade activities and mentorship)? Could this also include adults, young and older?

Scenario 4: Learn-as-you-go



Education takes place everywhere, anytime. Distinctions between formal and informal learning are no longer valid as society turns itself entirely to the power of the machine.



Goals and functions



Governance and geopolitics



Organisation and structures



The teaching workforce



Traditional goals and functions of schooling are overwritten by technology. Dismantling of schooling as a social institution.



Open market of “prosumers” with a central role for communities of practice (local, national, global).



(Global) governance of data and digital technologies becomes key.

Scenario 4: Learn-as-you-go

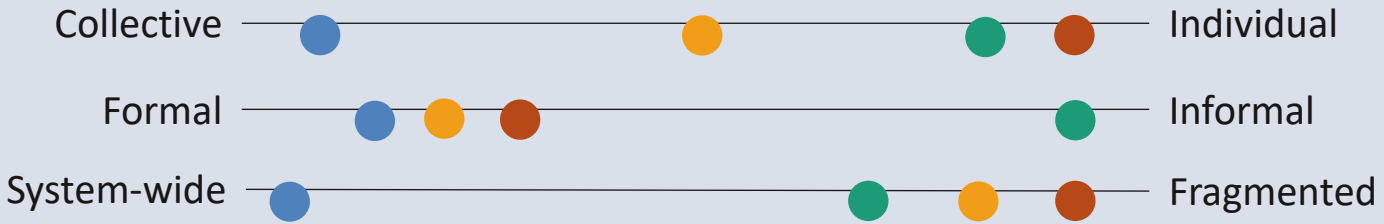


- What does more personalised learning through technology entail for student experiences? Are learning personalisation and individualisation synonyms?
- As digital infrastructure replace physical and human schooling resources, who is in charge of deciding who learns what and how? How do the results of technology-led personalisation compare to more traditional forms of teacher-led personalisation?

Grounding the scenarios



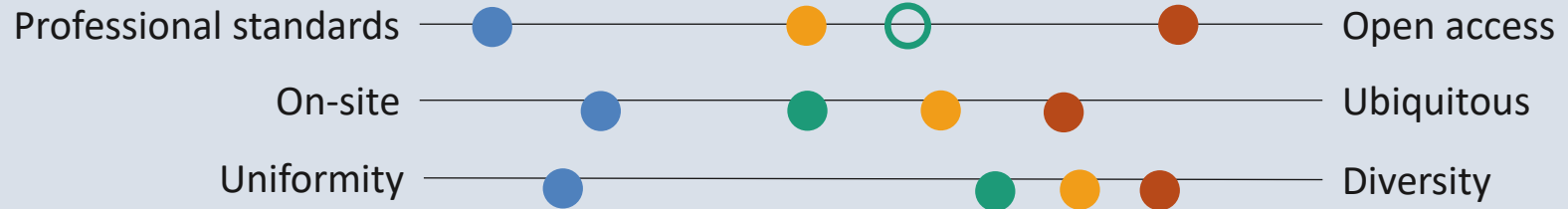
Goals and functions



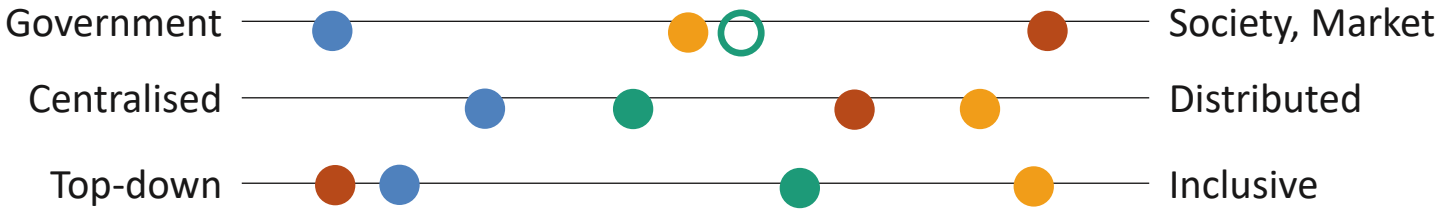
Organisation and structures



The teaching workforce

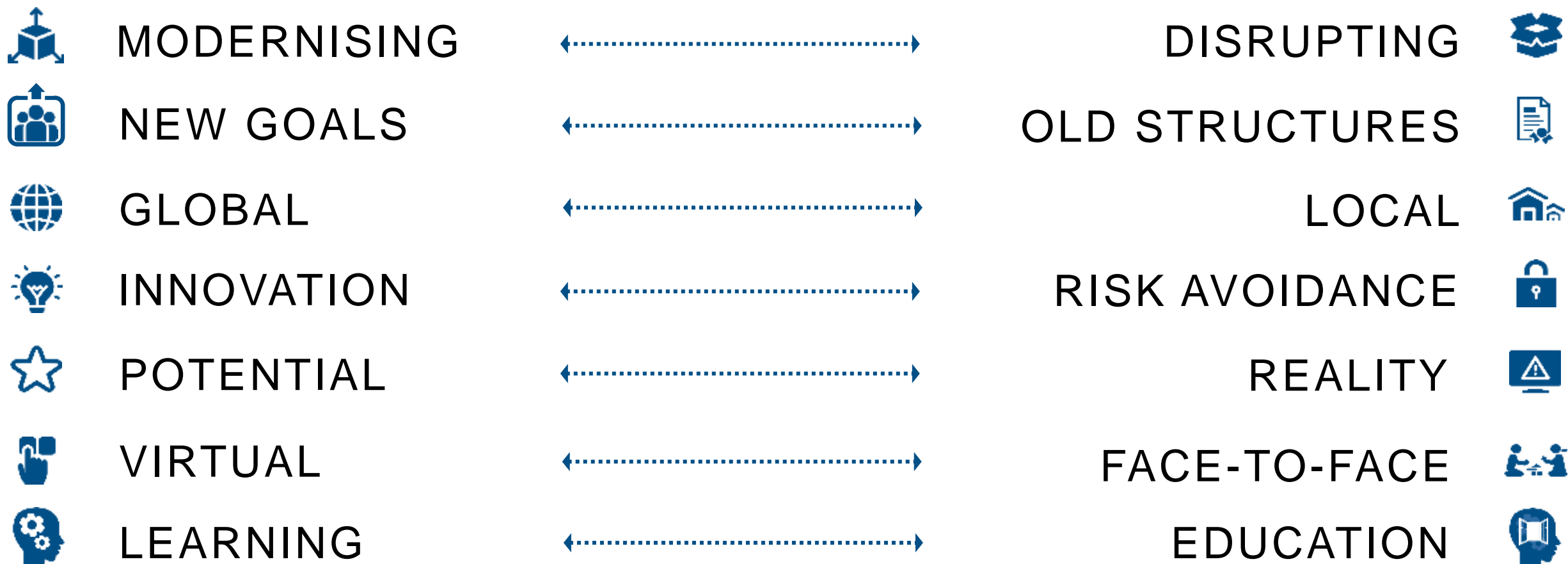


Governance and geopolitics



Assessing risks, leveraging opportunities

Tensions and paradoxes require smart responses



Thank you

Find out more about our work <https://oecdeditoday.com/coronavirus/>

- **Schooling disrupted – schooling rethought - the complete report**
- **Country implementation examples**
- **Innovative education resources**
- **Country notes**

Emails: **Andreas.Schleicher@OECD.org**

Twitter: **SchleicherOECD**

Wechat: **AndreasSchleicher**