Ensuring that education systems equip all people with the skills needed for success in the future

OECD 2022 Skills Summit
Andreas Schleicher

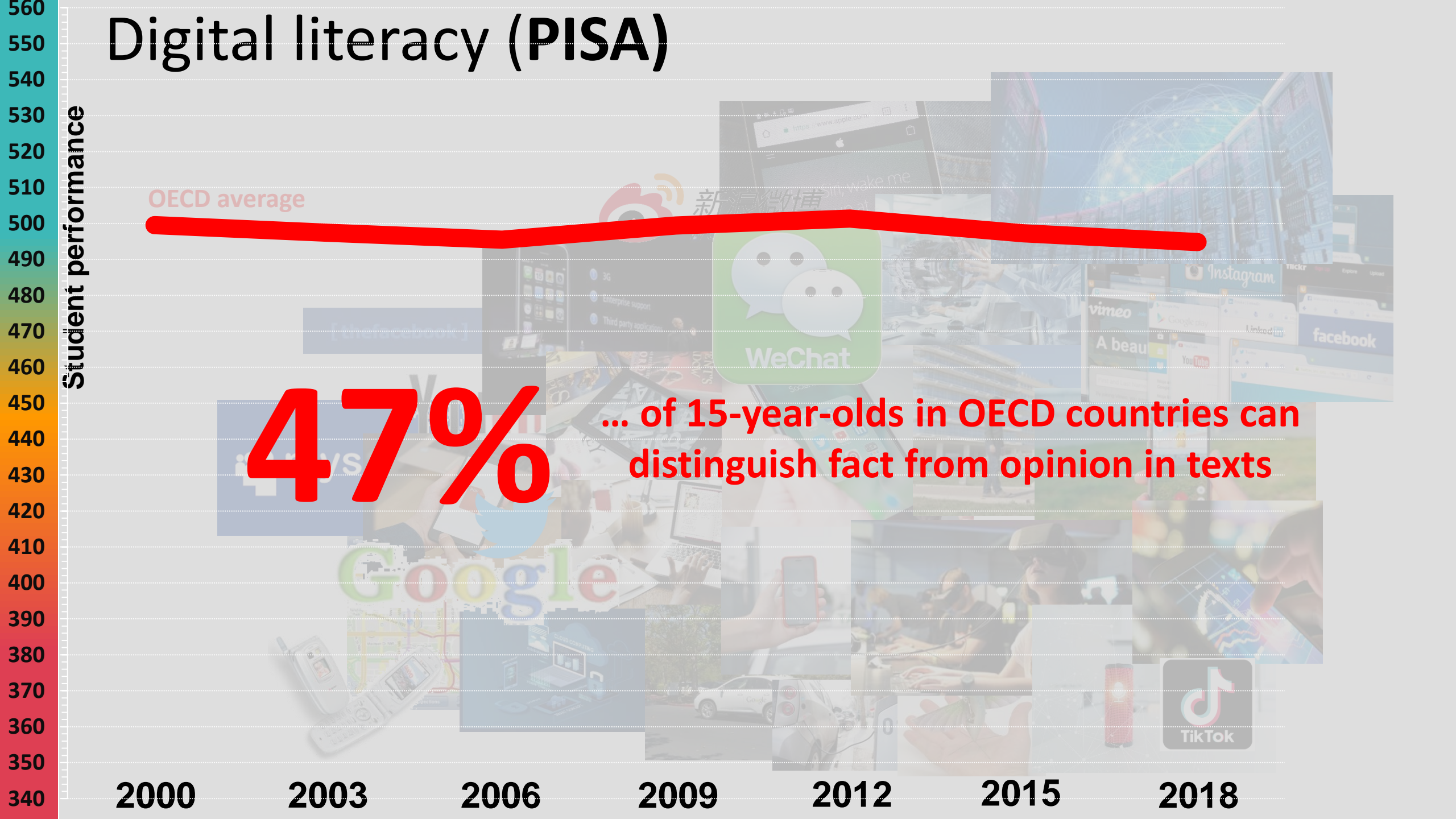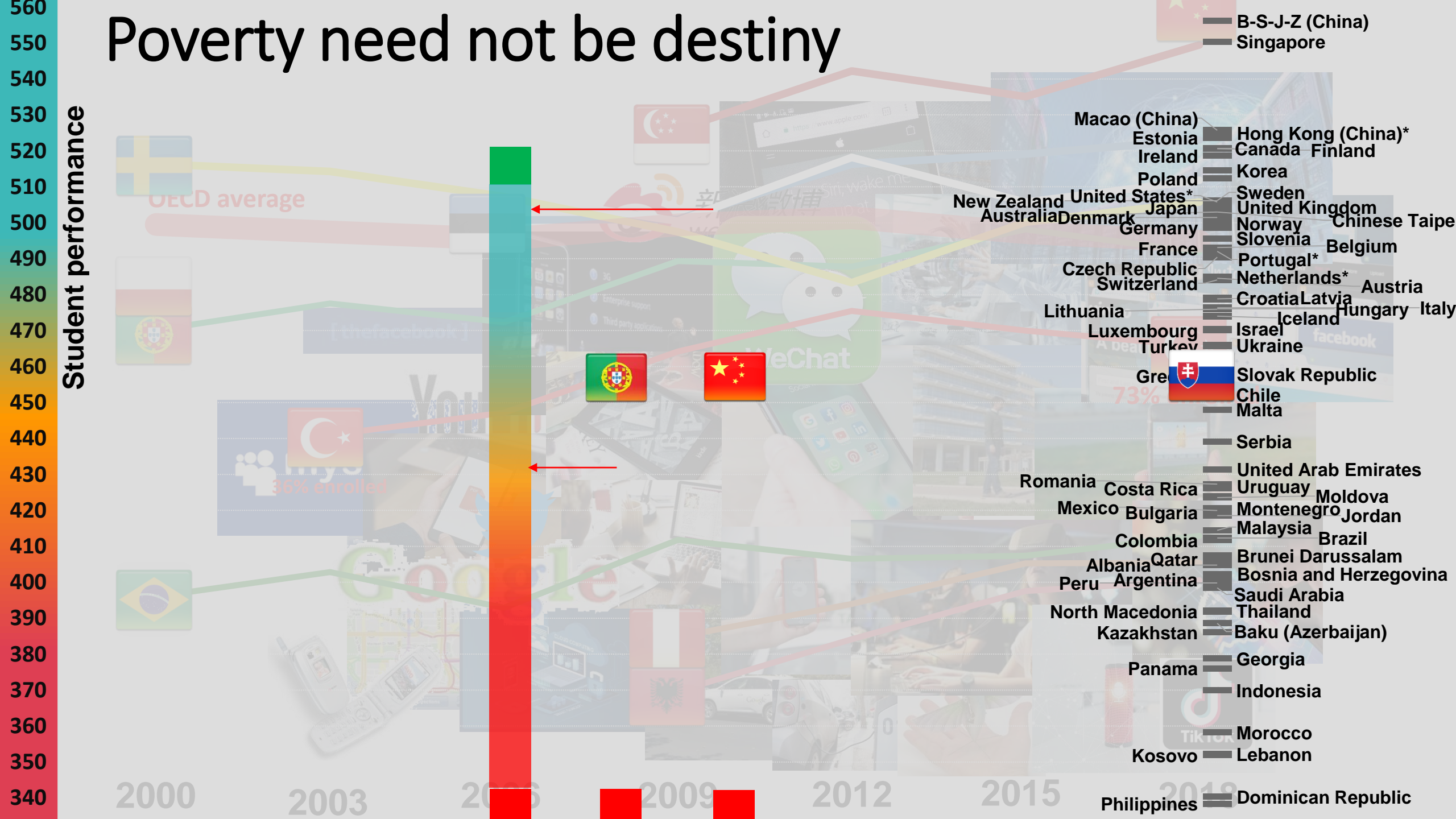# Digital literacy (**PISA**)

OECD average

Student performance

47% ... of 15-year-olds in OECD countries can distinguish fact from opinion in texts

560
550
540
530
520
510
500
490
480
470
460
450
440
430
420
410
400
390
380
370
360
350
340

2000 2003 2006 2009 2012 2015 2018

Digital literacy (PISA)

Poverty need not be destiny

Few systems align resources with needs

Based on principals' reports

Fig II.5.5

◆ **Index of shortage of education staff**　　▲ **Index of shortage of educational material**

Disadvantaged schools **have more resources** than advantaged schools

Disadvantaged schools have **fewer resources** than advantaged schools

Y-axis: Mean index difference between advantaged and disadvantaged schools

Countries (left to right): Peru, Uruguay, United Arab Emirates, Thailand, Australia, Hong Kong (China), Turkey, Luxembourg, Brazil, Saudi Arabia, Colombia, Panama, Philippines, Argentina, B-S-J-Z (China), Israel, United States, New Zealand, Slovenia, Malta, Dominican Republic, Macao (China), Indonesia, Jordan, Morocco, Canada, United Kingdom, Belgium, Switzerland, Ireland, Spain, Denmark, Germany, Lebanon, Brunei Darussalam, Sweden, Korea, Baku (Azerbaijan), OECD average, Slovak Republic, Greece, Mexico, Norway, Viet Nam, Japan, Chile, Malaysia, Hungary, Qatar, Kazakhstan, Estonia, Serbia, Czech Republic, Chinese Taipei, Bosnia and Herzegovina, Iceland, France, Albania, Netherlands, Singapore, Montenegro, Georgia, Italy, Costa Rica, Portugal, Ukraine, Poland, Kosovo, Croatia, Latvia, Finland, Bulgaria, Moldova, Lithuania, Romania, North Macedonia

It's not lack of learning time, it's lack of productivity

Productivity

Learning out of school

Time in school

Hours

Score points in reading per hour of learning time

Countries (left to right): Finland, Germany, Switzerland, Sweden, Estonia, New Zealand, Japan, Czech Republic, Macao (China), Netherlands, Ireland, France, United Kingdom, Australia, Norway, Iceland, Canada, Belgium, Slovenia, Hong Kong (China), Latvia, OECD average, Lithuania, Uruguay, Luxembourg, Portugal, Slovak Republic, Denmark, Poland, Hungary, Singapore, Austria, United States, Chinese Taipei, Israel, Croatia, Korea, Bulgaria, Greece, Italy, Turkey, Chile, Brazil, Colombia, Mexico, Costa Rica, Montenegro, Peru, Qatar, United Arab Emirates, Thailand, Dominican Republic

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

New learning experiences

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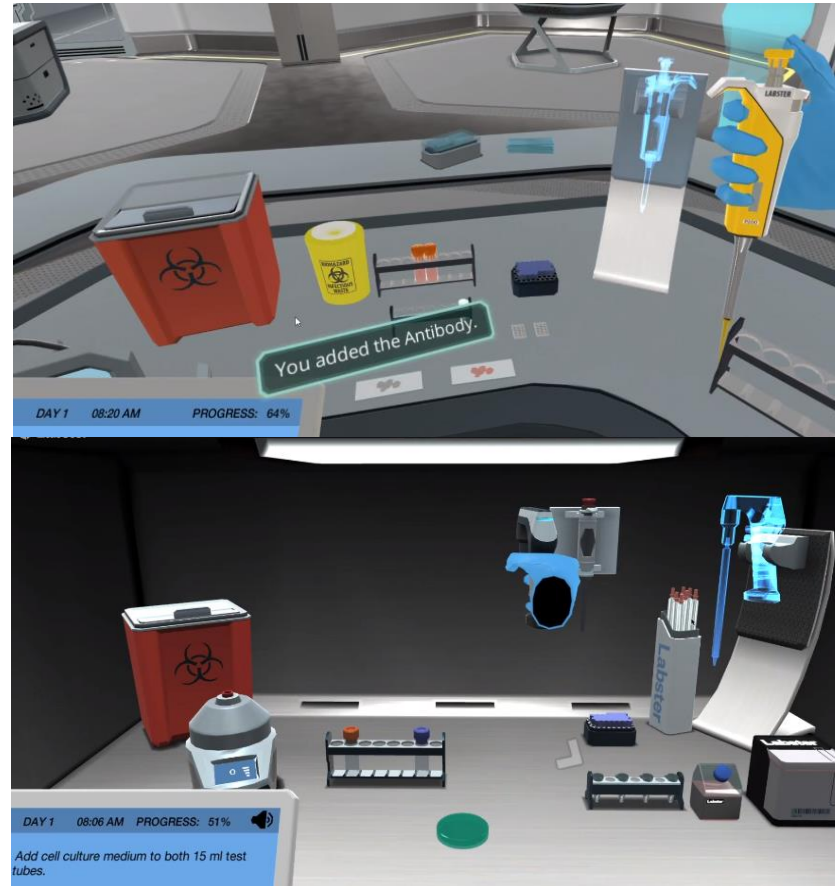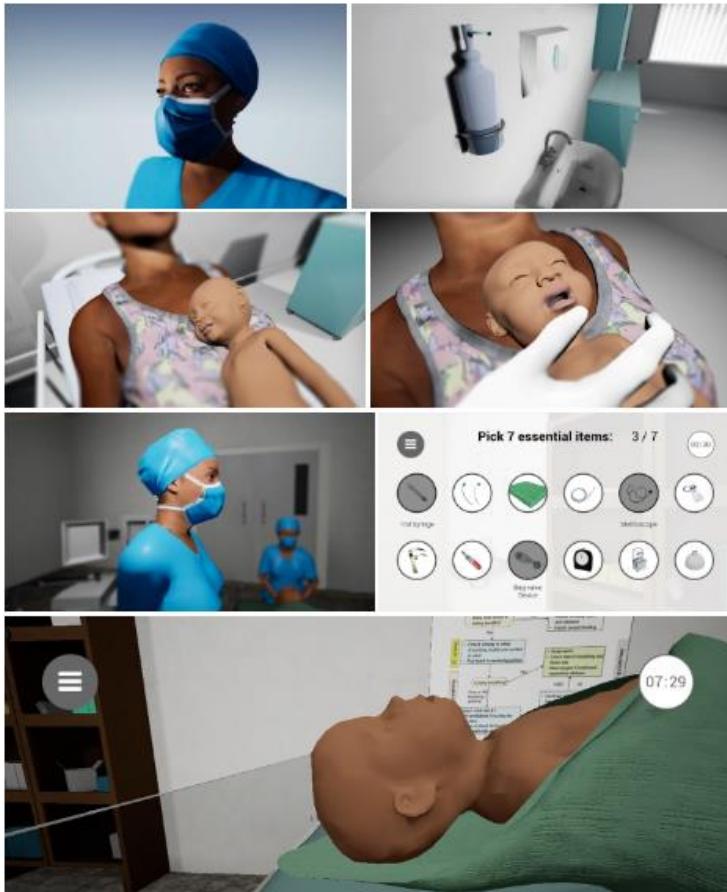

Image sources: Electude Classroom and Labster Labs' virtual labs; Oxford University's LIFE project, a smartphone-based virtual learning platform

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 struture instruction time (lecture, small group, discussion, assessment, practice, etc.)?
  - Which students do you talk to and support the most?

Assessments and exams
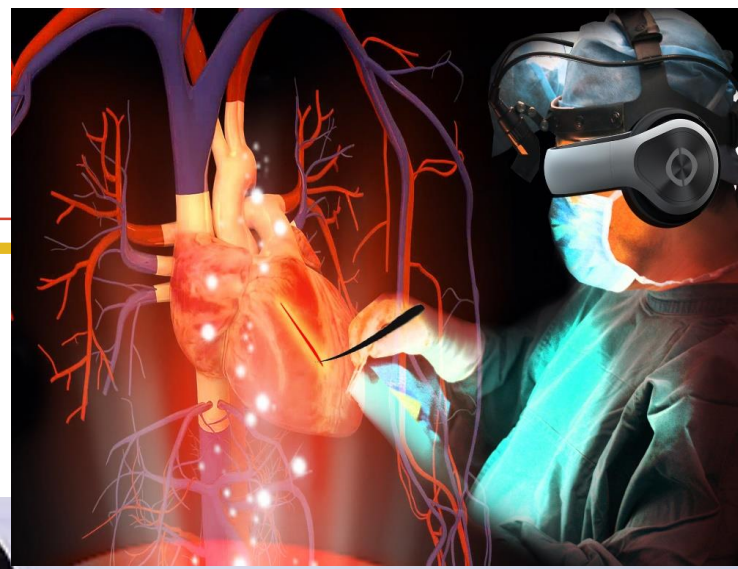
New types of assessments through simulations and games

Adaptive assessments

Hands-on assessment in vocational settings

Increasing reliability of machine rating for essays

Predictive models may disrupt the exam model

Learning loss in hybrid teaching & learning mode

Better student-teacher relations are linked with improved social and emotional skills

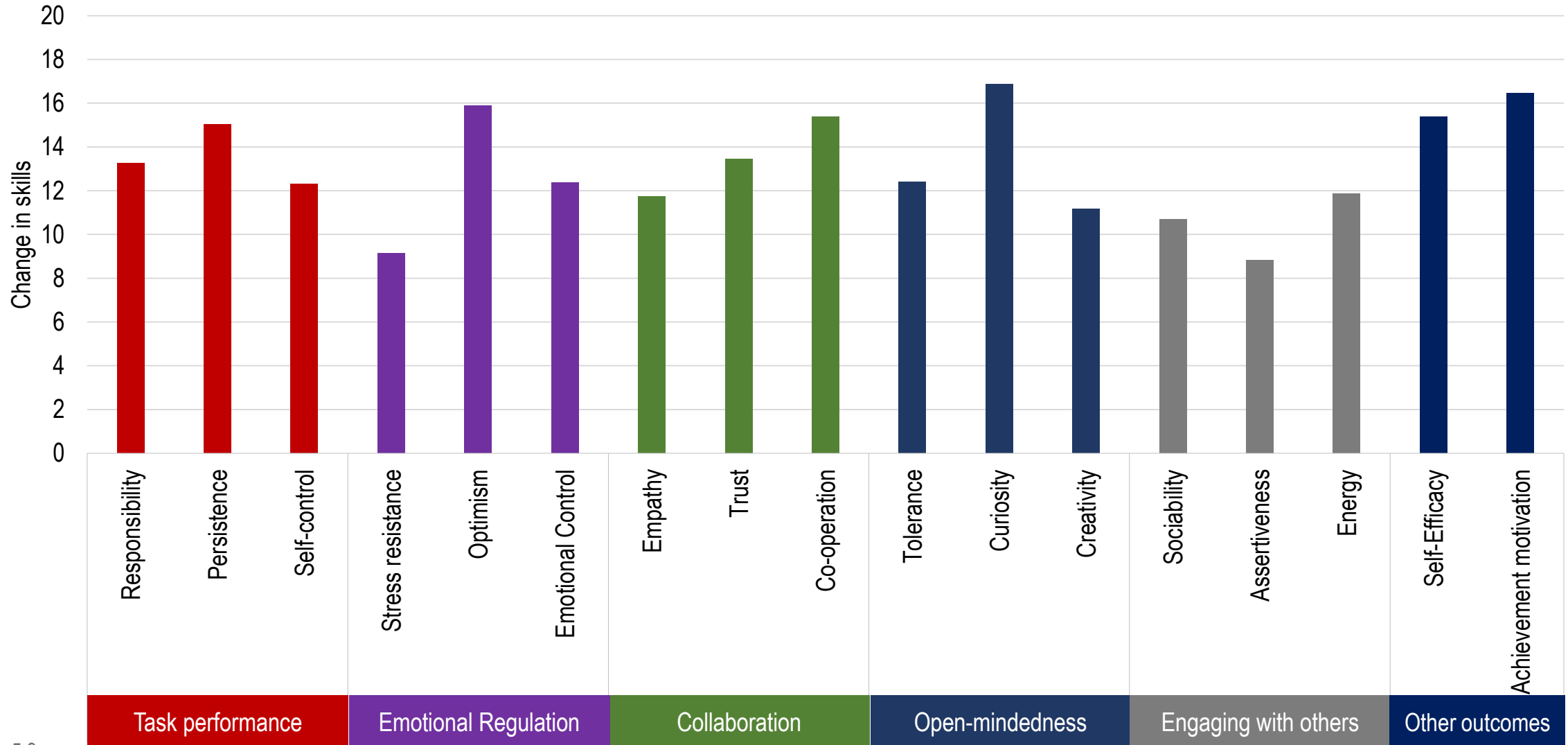Relations between student-teacher relations and social and emotional skills, 15-year-olds
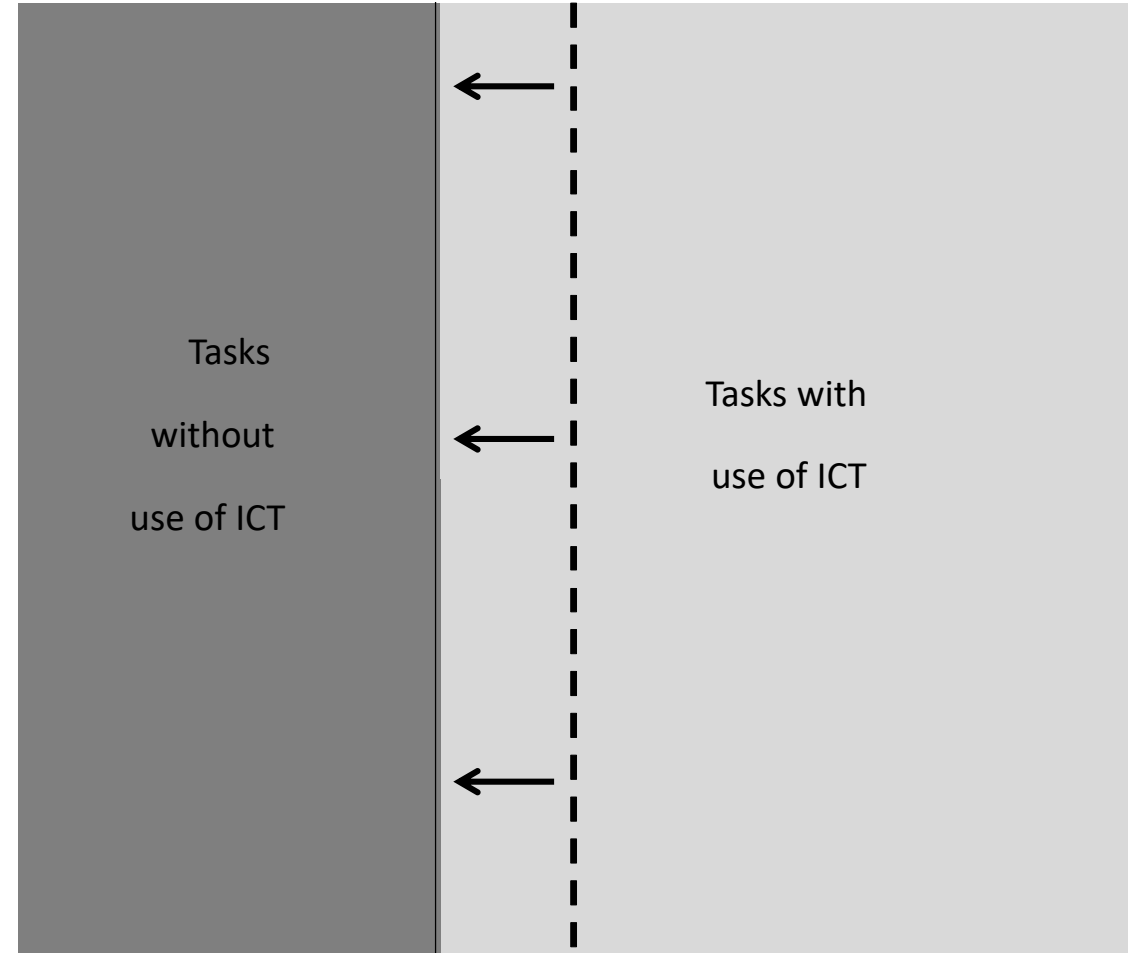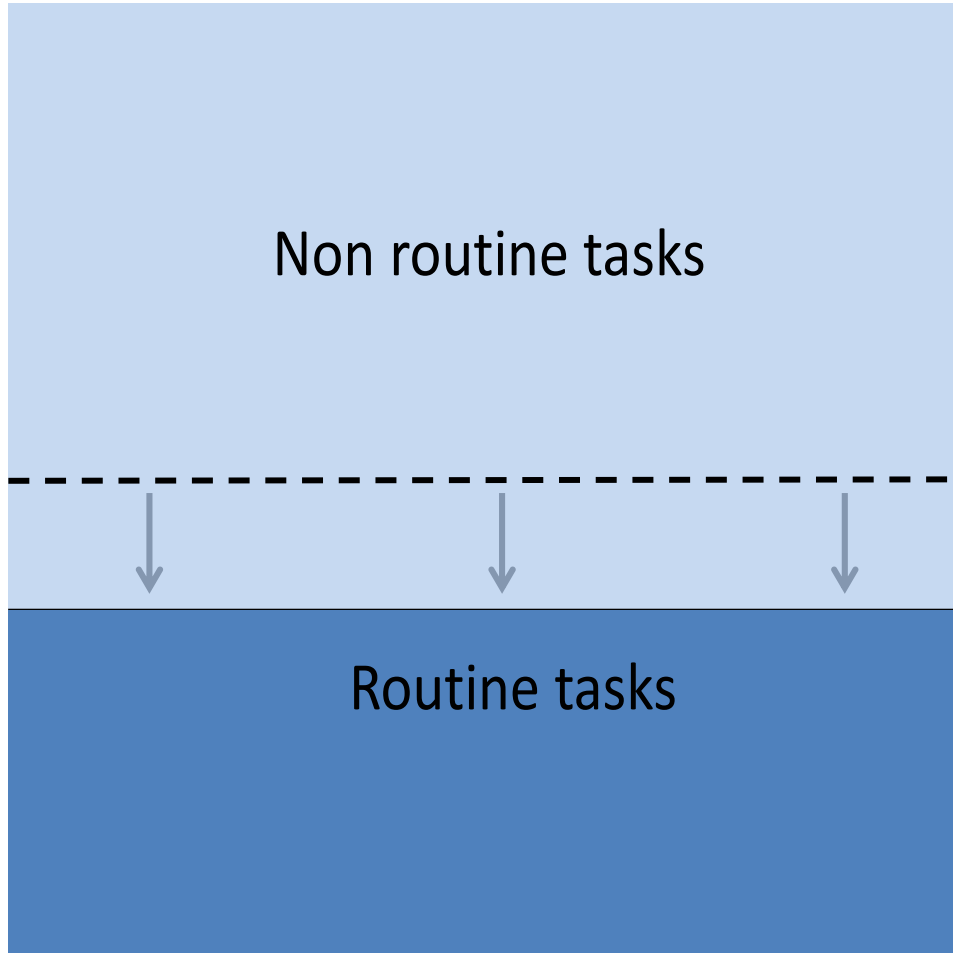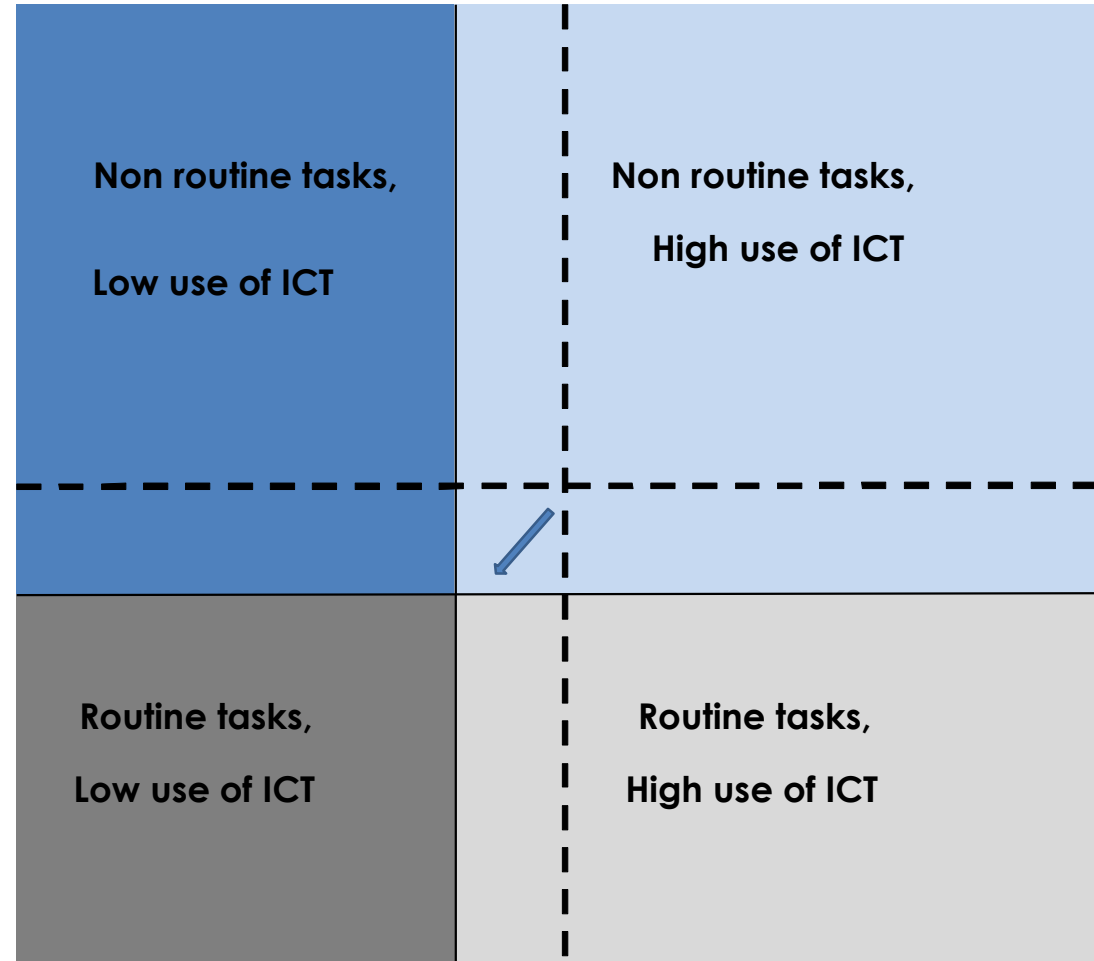

Figure 5.9

The kinds of things that are easy to teach…

Non routine tasks

Routine tasks

Tasks without use of ICT

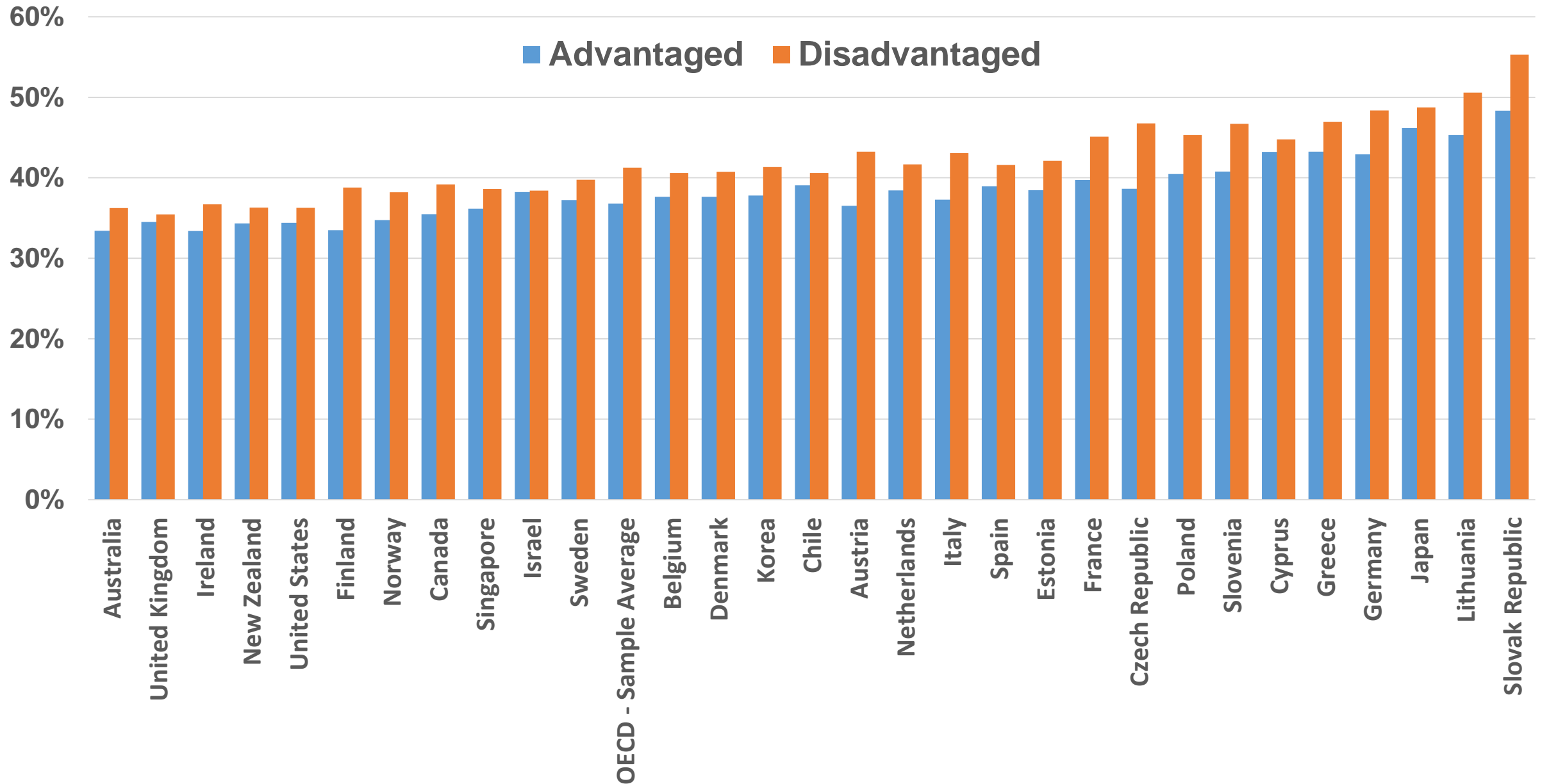Tasks with use of ICT

...have also become easy to digitise and automate

Skills and the risk of automation

Scatter plot: Skills (PIAAC Numeracy) on y-axis (170–310) versus Risk of automation on x-axis (35–70). R² = 0.273

Data points labeled: Denmark, Netherlands, Flanders (Belgium), Sweden, Austria, Czech Republic, Japan, Estonia, Slovak Republic, Australia, Canada, Hungary, Germany, England (UK), Russian Federation², Cyprus¹, Lithuania, Korea, OECD average, Poland, Slovenia, Ireland, Israel, France, Greece, United States 2012/2014, Singapore, Italy, Spain, Kazakhstan, United States 2017, Northern Ireland (UK), Turkey, Chile, Mexico, Ecuador, Peru
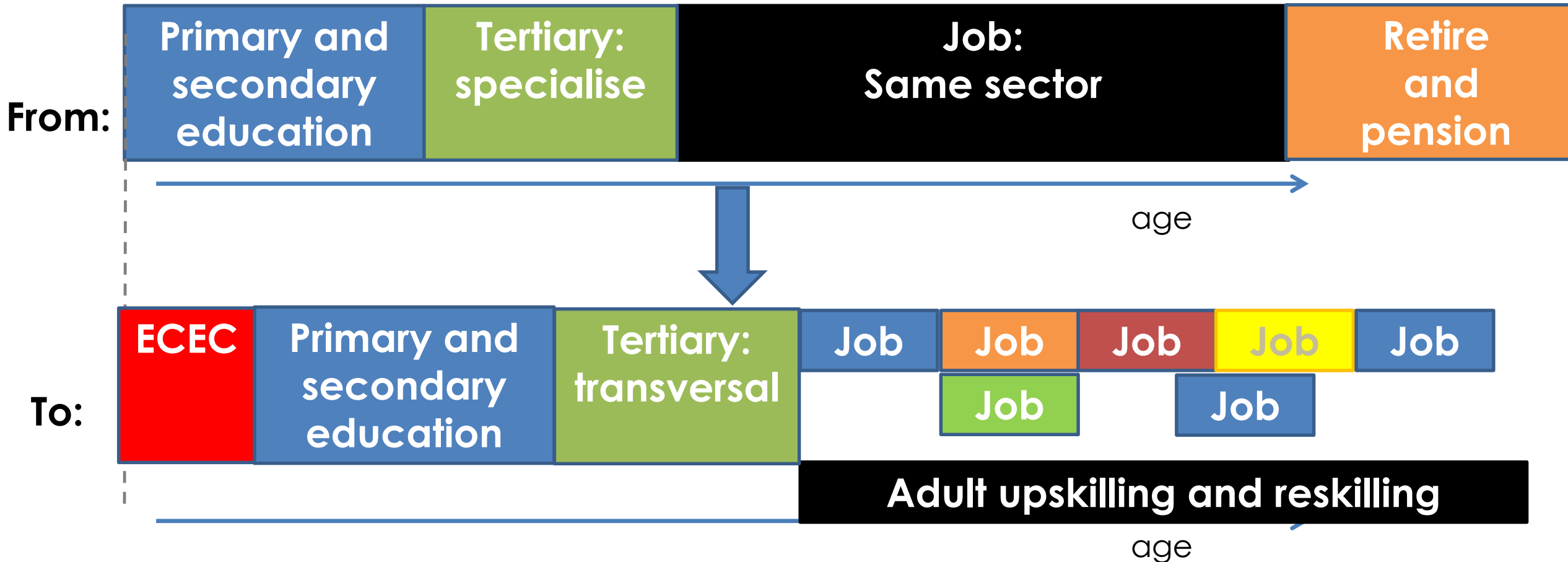
But many teenagers aspire to jobs that are at high risk of automation (PISA)

We used to learn to do the work, now learning is the work

From:

| Primary and secondary education | Tertiary: specialise | Job: Same sector | Retire and pension |

age

To:

| ECEC | Primary and secondary education | Tertiary: transversal | Job | Job | Job | Job | Job |

Job   Job

Adult upskilling and reskilling

age

Firms as learning environments

- How is the additional funding shared between Governments, employers and beneficiaries?

- What are the incentives?

- Who sets the standards?

- How are the levels of skills recognised?

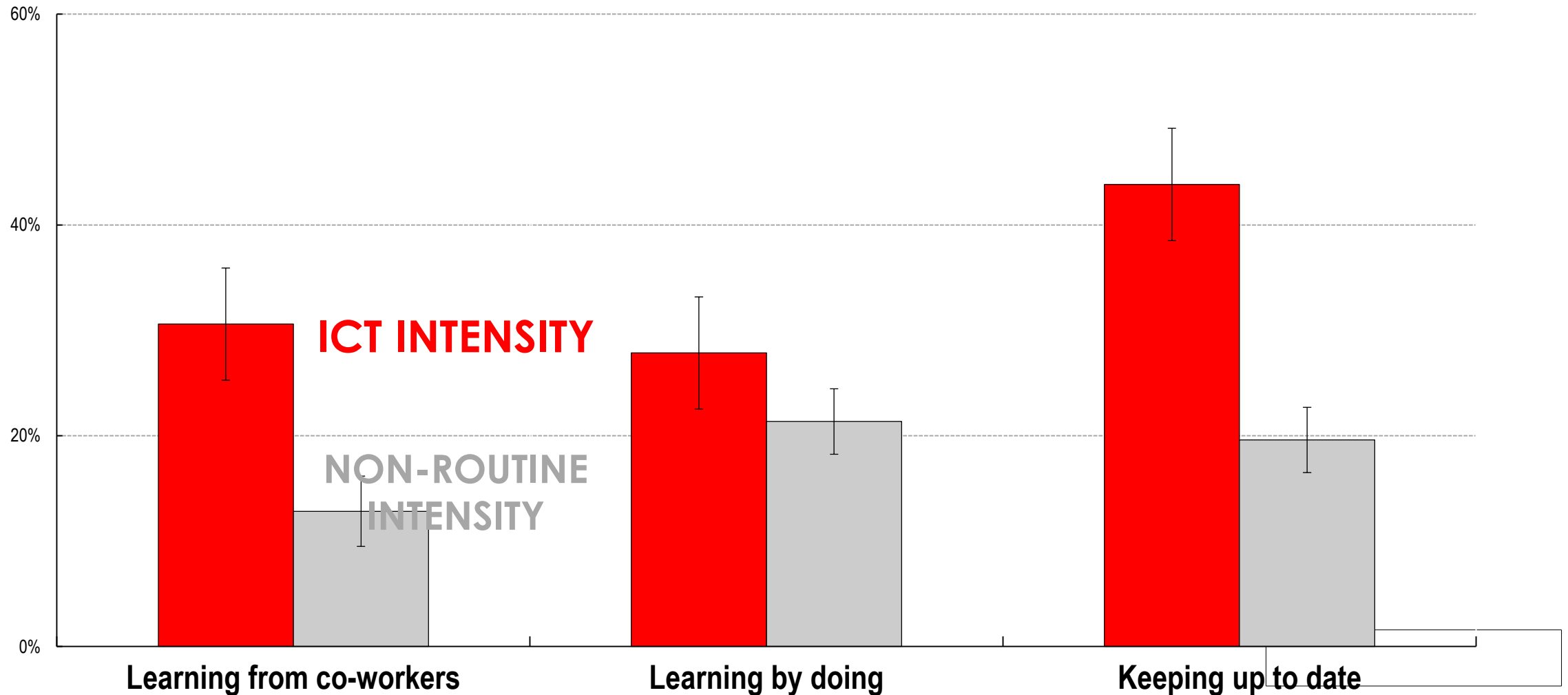- Who trains the trainers?

People outside firms

- Unemployed: Government. Funding for unemployment benefits, used for training?

- People at high risk of losing their jobs:
  firms or Government?

- People who want to change jobs
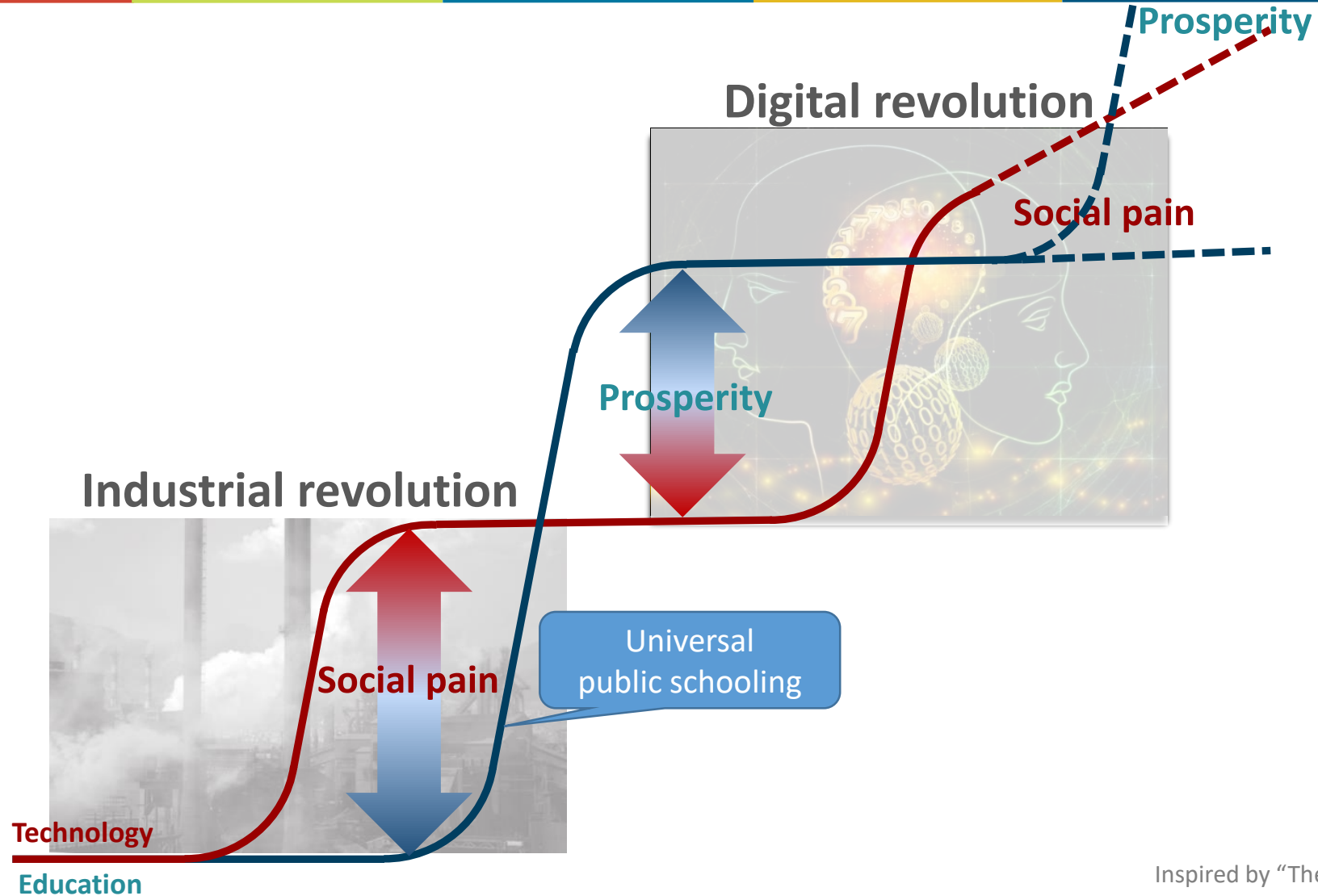
- Gig economy

Governance

- New forms of work: fewer taxes raised

- Decentralised information: less control

- Link between education and jobs weakened: the role of Governments risks been diminished

- Need to predict rapid changes in skills demands and respond to them

ICT USE AND NON-ROUTINE INTENSITY ENHANCE FORMS OF LEARNING

EXPECTED EFFECT OF INCREASE FROM 50TH TO 75TH PCTILE OF DIGITAL EXPOSURE ON PROBABILITY OF LEARNING AT LEAST ONCE A WEEK

ICT INTENSITY

NON-ROUTINE INTENSITY

Learning from co-workers   Learning by doing   Keeping up to date

Source: Survey of Adult Skills (2012, 2015)

Education won the race with technology throughout history, but there is no automaticity it will do so in the future

Prosperity

Digital revolution

Social pain

Prosperity

Industrial revolution

Social pain

Universal public schooling

Technology

Education

Potential discussion questions

1. What are the skills (e.g. foundational, digital and social and emotional skills) people need to fully contribute to and participate in digital and green economies?

2. What is your country doing to identify changing skills needs for different groups in rapidly changing societies?

3. What is your country doing to make education and training responsive to changes in skills needs?

4. How can national qualifications systems (including microcredentials) in your country help to improve the development and utilisation of skills in the labour market?

Thank you

Find out more about our work at
www.oecd.org/education

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

Twitter: **SchleicherOECD**

Wechat: **AndreasSchleicher**

and remember:

Without data, you are just another person with an opinion