

Digital Strategies for Development Forum 2017
Teaching Teachers: Preparing Trainers for ICT in Education

Use of ICT in Math Education: Case Studies in South Asia

7 September 2017

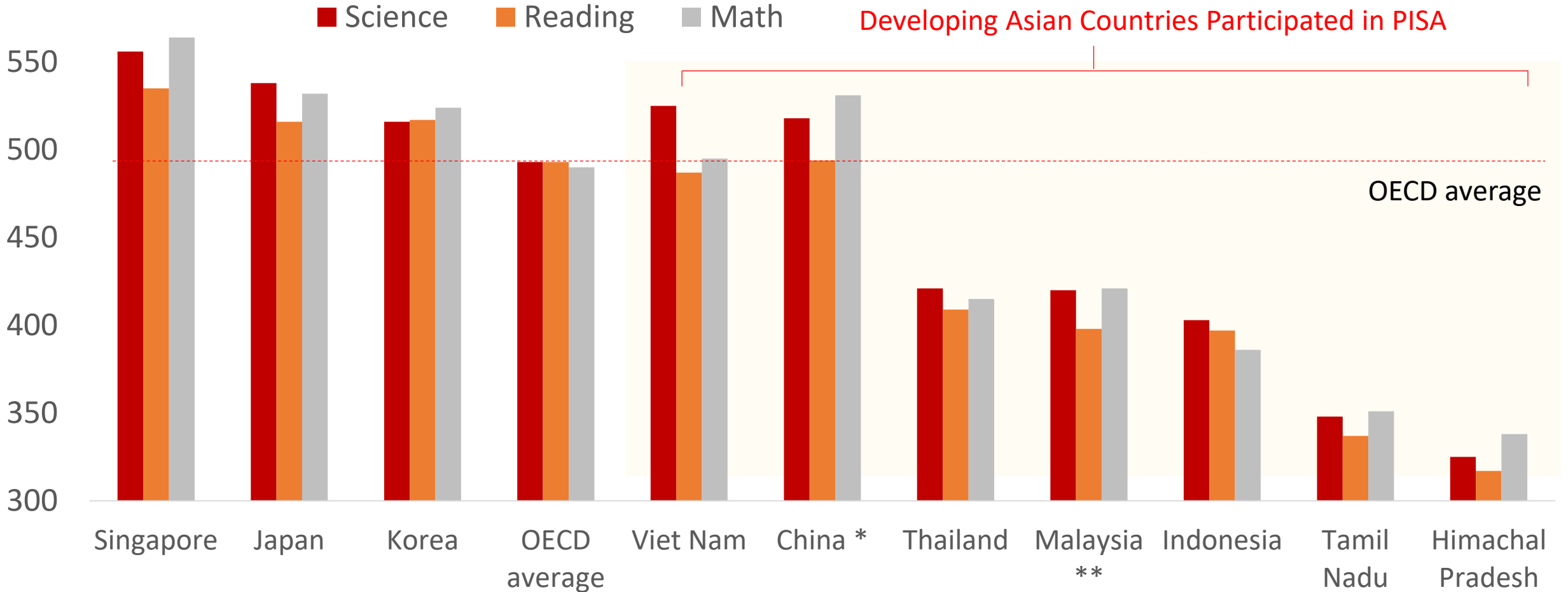
Sungsup Ra
Director, South Asia Human and Social Development Division
concurrently Chair, Education Sector Group



Developing Asia Faces Challenges on Education Quality

Mean Score

600



Source: OECD Programme for International Student Assessment (PISA), 2015

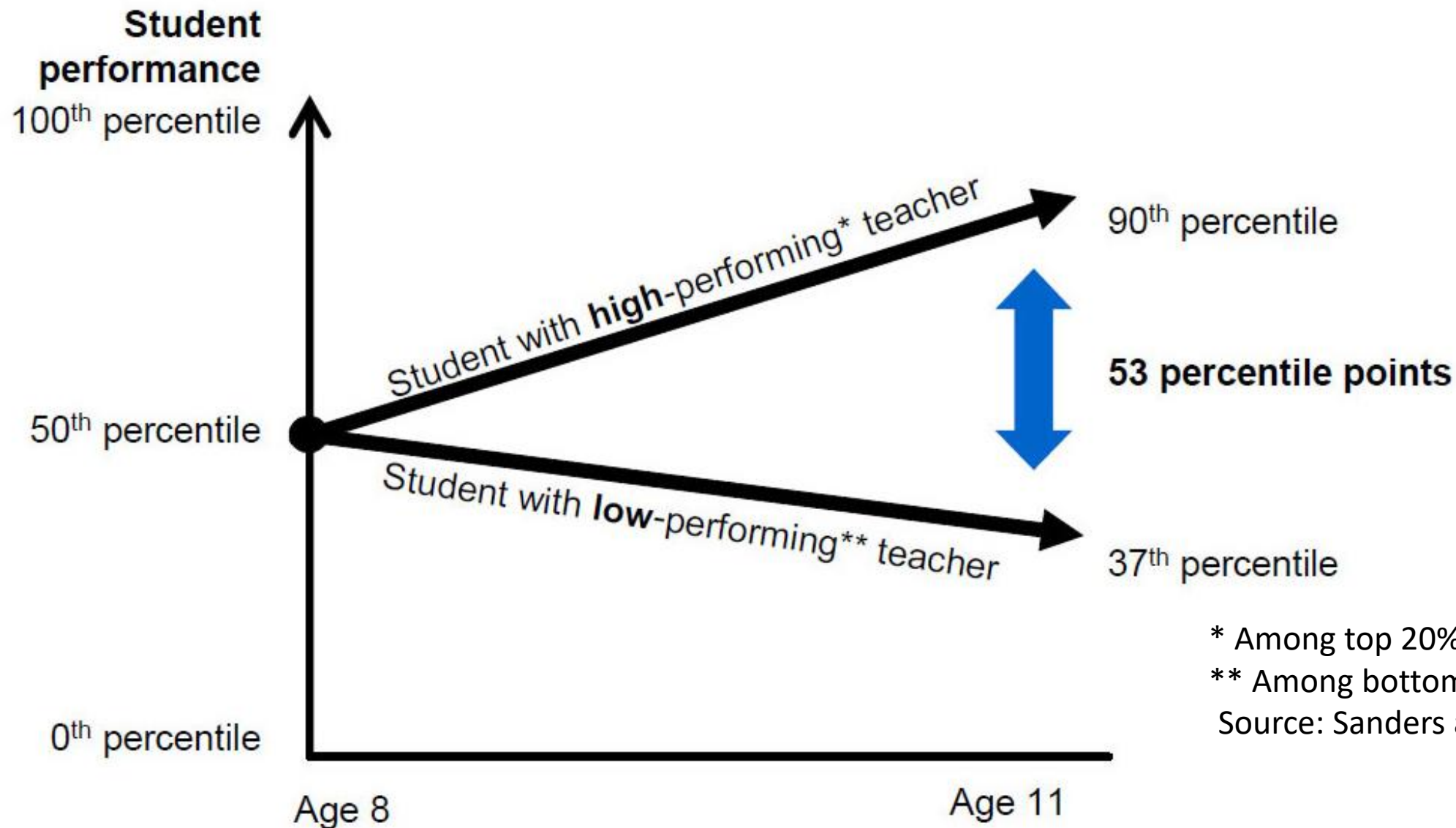
* Beijing-Shanghai-Jiangsu-Guangdong (China), PISA 2015

** PISA 2012 results

*** PISA 2009 results



Teacher Makes a Difference in Student Learning

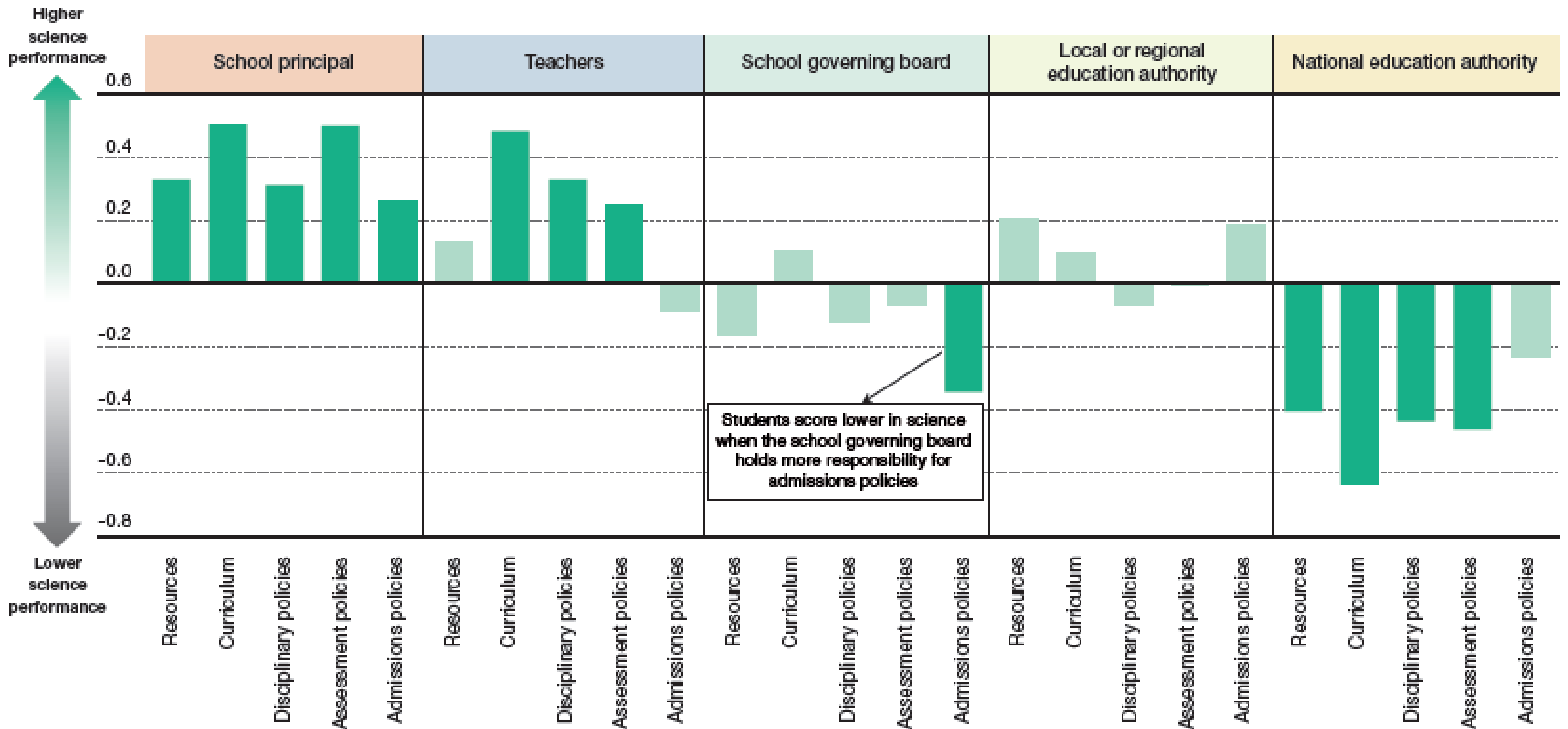


* Among top 20% teachers

** Among bottom 20% teachers

Source: Sanders and Rivers (1996)

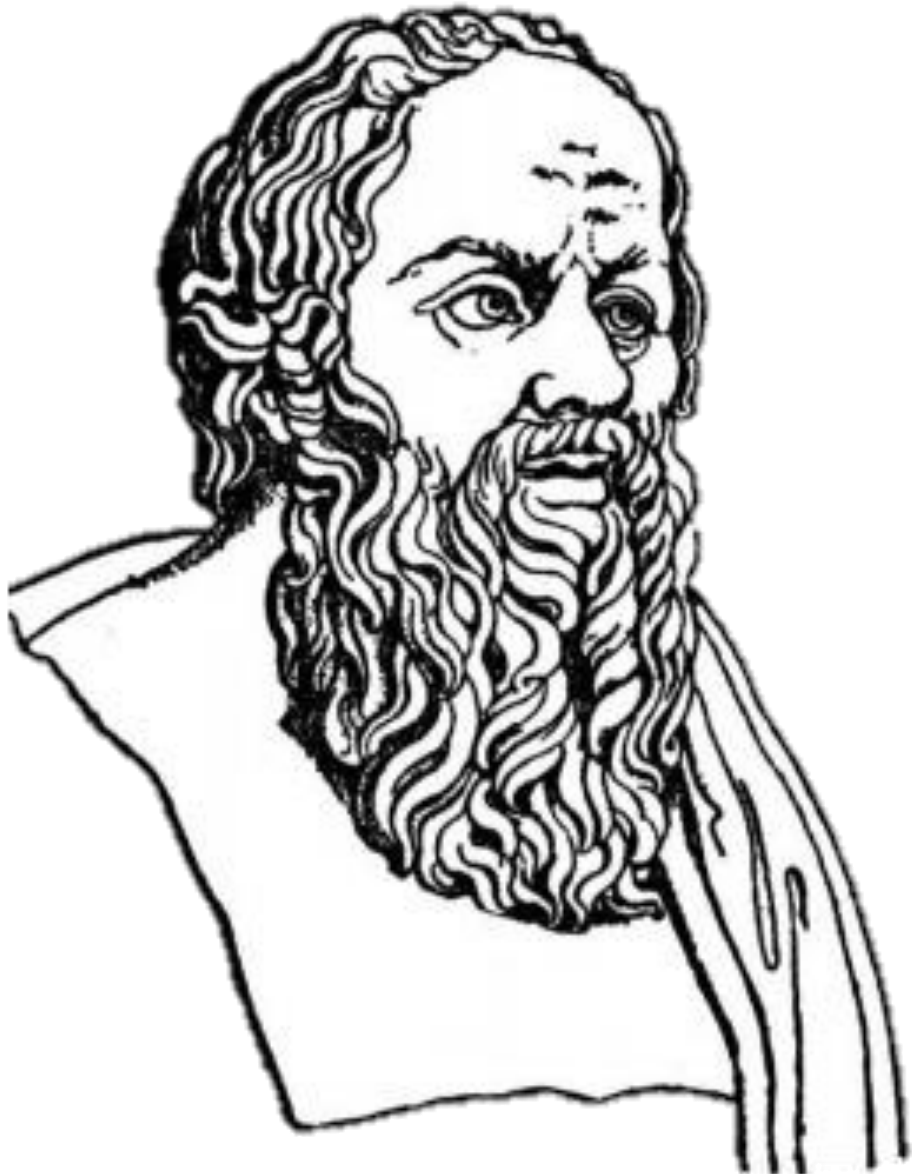
School Leadership and Teacher Autonomy



Source: OECD Programme for International Student Assessment (PISA), 2015



Strategic Use of ICT: Emulate Socrates?

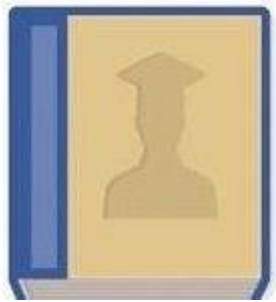


School/teacher-centered to
student-centered education

School/classroom-based to
experiential learning

Monologue to
Interactive/participatory

Emerging Best Practices Using ICT for Education



Facebook in Education



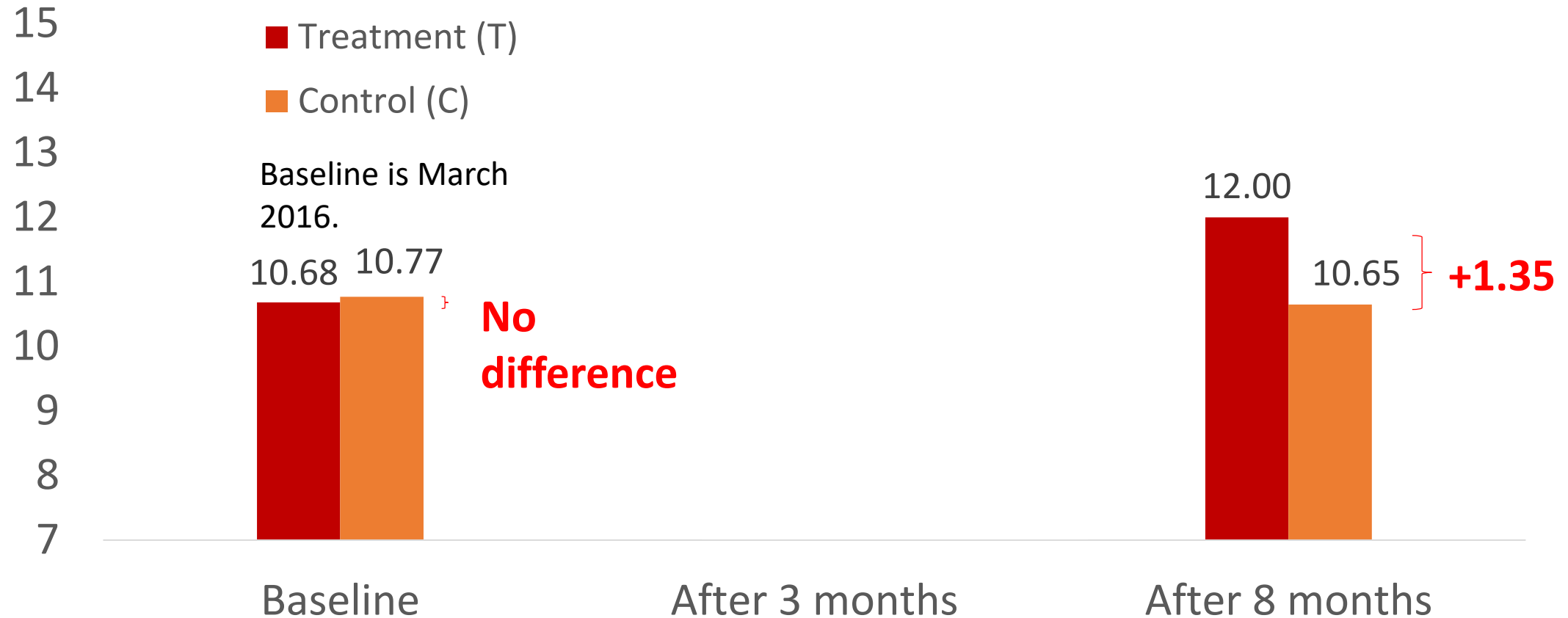
ADB Experience - MathCloud in Bhutan and Sri Lanka



Grade 8 Students

Improved Students' Math Score in Bhutan

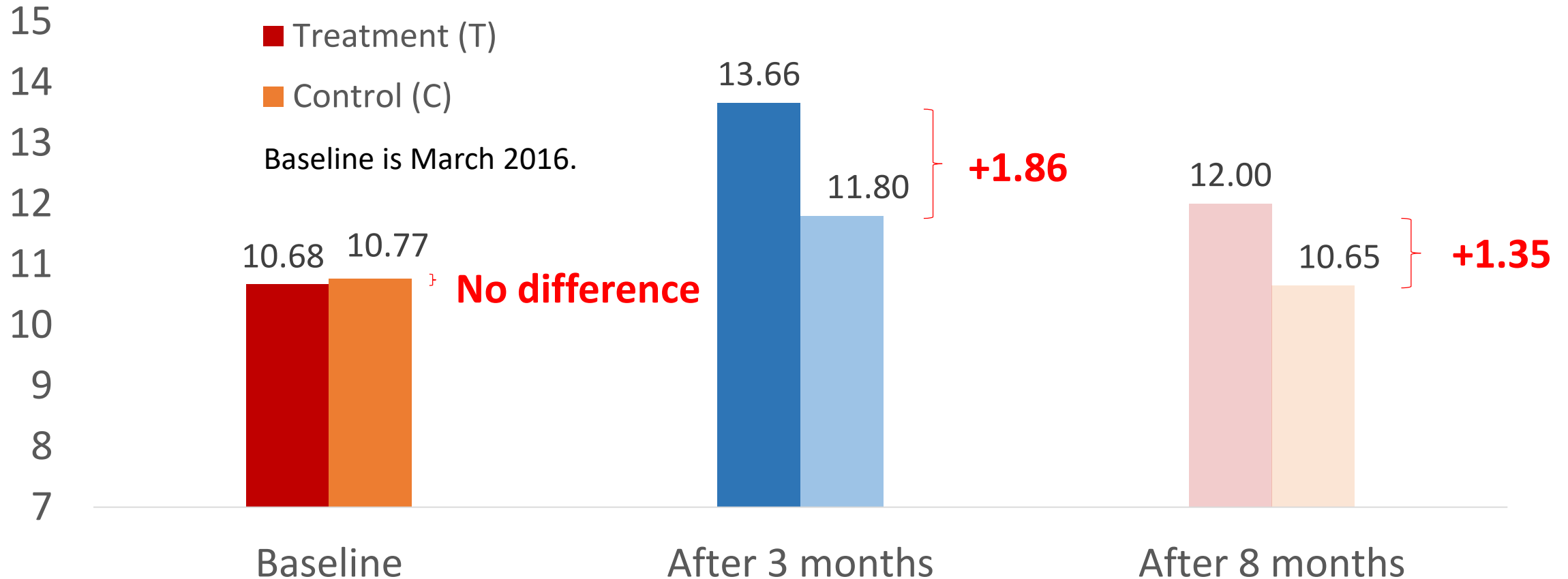
Vertical axis is raw math test score.



16 schools. 8 treatment (around 600 students) and 8 control schools (around 470 students). Math test consisted of 30 questions. Standard deviation (sd) is 3.2 at baseline (both T and C), and 4.4 (T), 3.7 (C) at midline and 4.4 (T), 4.0 (C) at endline.

Improved Students' Math Score in Bhutan

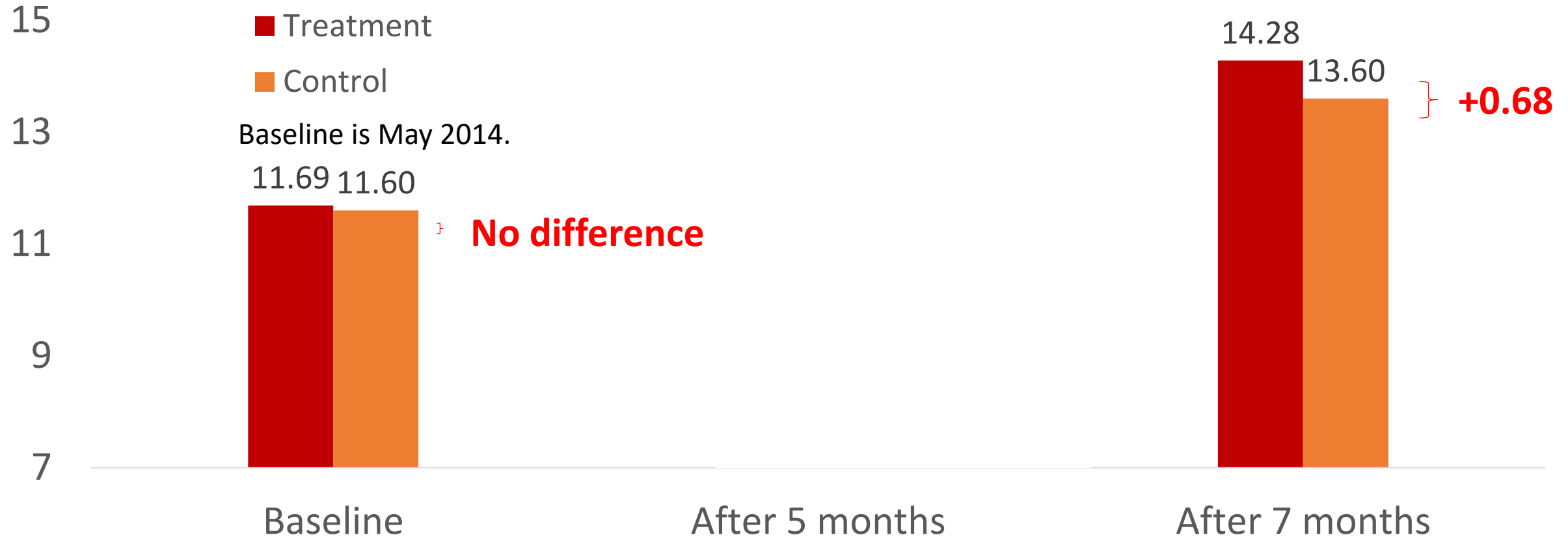
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Improved Students' Math Score in Sri Lanka

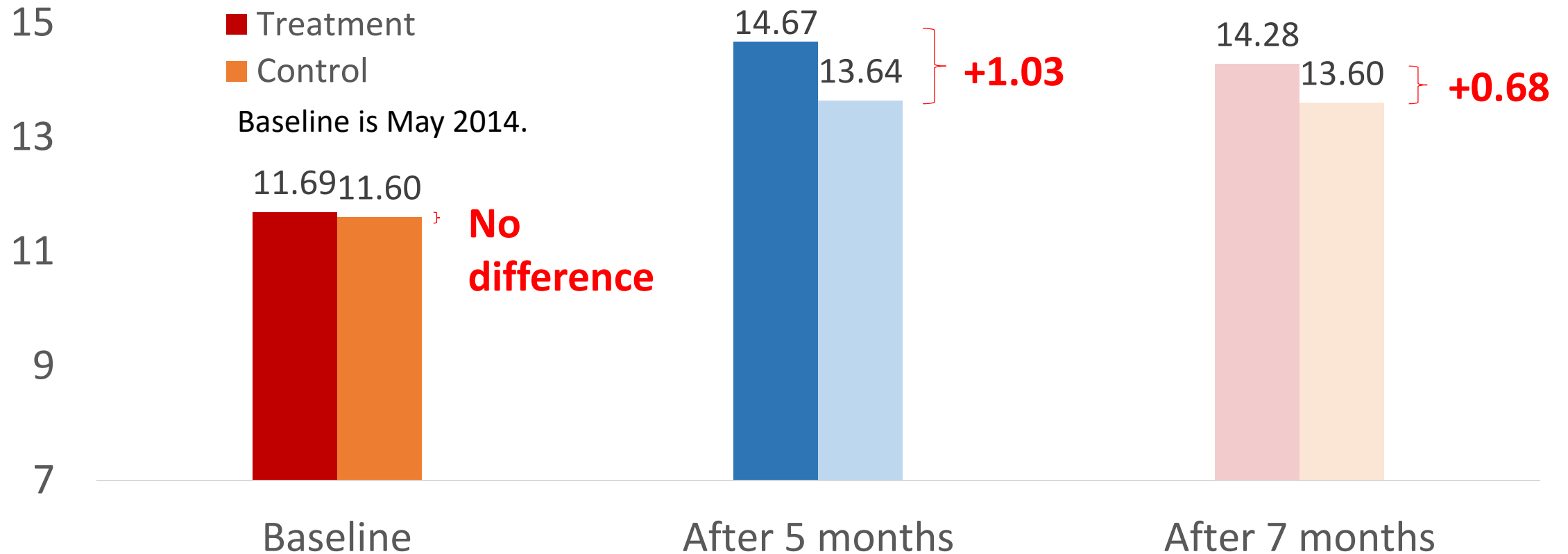
Vertical axis is raw math test score.



20 schools having one treatment (around 600 students) and one control classrooms (around 700 students) per school. Math test consisted of 30 questions. Standard deviation (sd) is 5.1 at baseline, and 5.4 after 5m and 5.2 after 7m (sd not much difference b/w T and C)

Improved Students' Math Score in Sri Lanka

Vertical axis is raw math test score.



20 schools having one treatment (around 600 students) and one control classrooms (around 700 students) per school. Math test consisted of 30 questions. Standard deviation (sd) is 5.1 at baseline, and 5.4 after 5m and 5.2 after 7m (sd not much difference b/w T and C)

Discussions

1

Holistic approach towards the development of ICT in education plans and policies at both national and individual school levels

2

Changing role of teacher – i) coach/facilitator, and ii) monitoring and assessment

3

Capacity development of teachers, principals, administrators and policy makers to effectively integrate ICT in education system

4

Forge Public Private Partnership (PPP) for sustainable use of ICT in education

5

Promote R&D for ICT in education for innovation and evidence-based policies

Thank you.