Strong performers and successful reformers in education Andreas Schleicher, Lisbon 10 February 2017





Science performance and equity in PISA (2015)



Some countries combine excellence with equity

Poverty is not destiny - Science performance

by international deciles of the PISA index of economic, social and cultural status (ESCS)



Figure I.6.7

Students expecting a career in science



Students expecting a career in science

by performance and enjoyment of learning





Multiple outcomes



Lessons from PISA



Lessons from PISA

High impact on outcomes

Must haves

at poin

Low feasibility

Quick wins

Commitment to universal achievement

- A commitment to education and the belief that competencies can be learned and therefore all children can achieve
- Universal educational standards and personalizati on as the approach to engage with diversity...
- ... as opposed to a belief that students have differen t destinations to be met with different expectatio ns, and selection/stratification as the approach to heterogeneity
- Clear articulation who is responsible for ensuring student success and to whom

Resources where they yield most

> ve structures and countability

> > igh feasibility

tional s

Money pit

Low hanging fruits

Academic and social inclusion across schools



Grade repetition

Favour additional support to struggling students over grade repetition

Change between 2009 and 2015 in grade repetition rates



Increased likelihood of grade repetition

by students' socio-economic status

Odds 15 ┌	s ratio						•	■ Aft ♦ Be	er ac fore	cou acco	nting fo	or pe for p	rformar perform	nce in ance	scier in sci	nce an ence a	d reac and rea	ling ading							
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		High impact o	on outcomes
	Must haves	1	Quick wins
	Commitment	to universal a	ichievement
Can	acity		Resources where they yield most
at point o	of delivery		Investing resources where they can make most of a difference
d	Coherence	A learning	 Alignment of resources with key challenges (e.g . attracting the most talented teachers to the m ost challenging classrooms)
Low feasibility			 Effective spending choices that prioritise high q uality teachers over smaller classes
			Gateways, instructional s ystems
	Money pits		Low hanging fruits
		Low impact o	n outcomes

Spending per student from the age of 6 to 15 and science performance



Figure II.6.2

Differences in educational resources

between advantaged and disadvantaged schools



Starting strong

Attendance at pre-primary school

by schools' socio-economic profile





Lessons from PISA

The 'productivity' puzzle

Making learning time productive so that students can build their academic, social and emotional skills in a balanced way

Learning time and science performance



Learning time and science performance



Professional knowledge and expertise in teaching



26 Professionalism

Professionalism is the level of autonomy and internal regulation exercised by members of an occupation in providing services to society

External forces exerting pressure and influence inward on an occupation

Internal motivation and efforts of the members of the profession itself Autonomy: Teachers' decisionmaking power over their work (teaching content, course offerings, discipline practices)

> Teacher professionalism

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

4

Knowledge

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



Teachers Self-Efficacy and Professional Collaboration



Teachers reporting feedback from different sources following direct classroom observations

3

Percentage of lower secondary education teachers who report having received the following feedback from different bodies



Teacher outcomes

Status of the profession

32

Teachers' perception of the extent to which teaching is valued as a profession Satisfaction with the profession

Teachers' report on the extent to which teachers are happy with their decision to become a teacher. Teachers' report on the extent to which teachers are happy with their current schools.

Satisfaction with

work

environment

Self-efficacy

Teachers' perception of their capabilities (e.g. controlling disruptive behaviour, use a variety of assessment strategies, etc.).

Teacher professionalism index and teacher outcomes

Predicted percentile

33



Student-teacher ratios and class size



Teachers' perceptions of the value of teaching in society



Relationship between the perceived value of the teaching profession and the share of PISA top performers (math)

Relationship between lower secondary education teachers' views on the value of their profession in society and the share of top mathematics performers in PISA 2012



High impact on outcomes

Governance, incentives, accountability, knowledge management

• Aligned incentive structures

For students

- How gateways affect the strength, direction, clarity and nature of the incentives operating on students at each stage of their education
- Degree to which students have incentives to take tough courses and study hard
- Opportunity costs for staying in school and performing well

For teachers

- Make innovations in pedagogy and/or organisation
- Improve their own performance and the performance of their colleagues
- Pursue professional development opportunities that lead to stronger pedagogical practices
- A balance between vertical and lateral accountability
- Effective instruments to manage and share knowledge and spread innovation communication within the system and with stakeholders around it
- A capable centre with authority and legitimacy to act

Low impact on outcomes

Resources ere they yield most

e structures and ountability

igh feasibility

onal s

ging fruits

Lessons from PISA

Public and private schools

Across OECD countries, 84% of students attend public schools, 12% government-dependent private schools and 4% independent private schools PISA generally observes no systematic net performance differences

Science performance in public and private schools

After accounting for socio-economic status

Before accounting for socio-economic status



Governance

Across the OECD, 70% of students attend schools whose principals have considerable responsibility for hiring teachers, and in half the cases also over budget allocations within the school

Index of school autonomy

by schools' socio-economic status



Correlations between the responsibilities for school ^{Figure II.4.8} governance and science performance





Lessons from PISA

INSIDE: A 14-PAGE SPECIAL REPORT ON TECH STARTUPS



MANUARY SETTI-24TH 2014

If the French ran America China cracks down on microblogs New opportunities for organised crime Regulators go soft on Europe's banks Google and the internet of things

Coming to an office near you...



The kind of things that are easy to teach are now easy to automate, digitize or outsource



Robotics



The Auto-auto >1m km,

00.00 MP

Stop

one minor accident, occasional human intervention

Augmented Reality









A lot more to come

- 3D printing
- Synthetic biology
- Brain enhancements
- Nanomaterials
- Etc.









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Education now

Dimensions of student learning







Can we make the differentiator of yesterday's elite schools the key for success in every school?



What teachers say and what teachers do

89% of teachers: My role as a teacher is to facilitate students own inquiry

hers say hers do

91% of teachers: Thinking and reasoning is more important than curriculum content

hers say hers do

93% of teachers: My role as a teacher is to facilitate students' own inquiry

hers say hers do

Prevalence of elaboration reasoning, deep learning, intrinsic motivation, critical thinking, creativity, non-routine problems



Prevalence of memorisation

practice and/or repetition

rehearsal, routine exercises, drill and



Lessons from PISA

Schooling tomorrow		Schooling today
All students learn at high levels	\rightarrow	Some students learn at high levels
Embracing diversity	\rightarrow	Uniformity
Learner-centred	\rightarrow	Curriculum-centred
Learning an activity	\rightarrow	Learning a place
Informed profession	\rightarrow	Prescription
User-generated wisdor	\rightarrow	Delivered wisdom

Thank you

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