

Serious inclusion:

The role of ICTs to reach the UN SDGs

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доброе утро! Good morning!

Main points

Preface: As UNESCO Chair, this presentation is mainly about SDGs in developing countries, but also about disadvantaged and poor in every country.

1. Global use of technologies (ICT) is growing dramatically
2. Technologies are also increasing in schooling and in everyday life
3. Impact of ICT on education and development today remains too much on access and not enough on quality impact
4. The role of learning in the new UN SDGs
5. ICT4E design framework: How to match resources with those in most need?
6. The importance of environmental/climate sustainability
7. Conclusion: “serious inclusion” (access and impact)

Technology for development – a global view

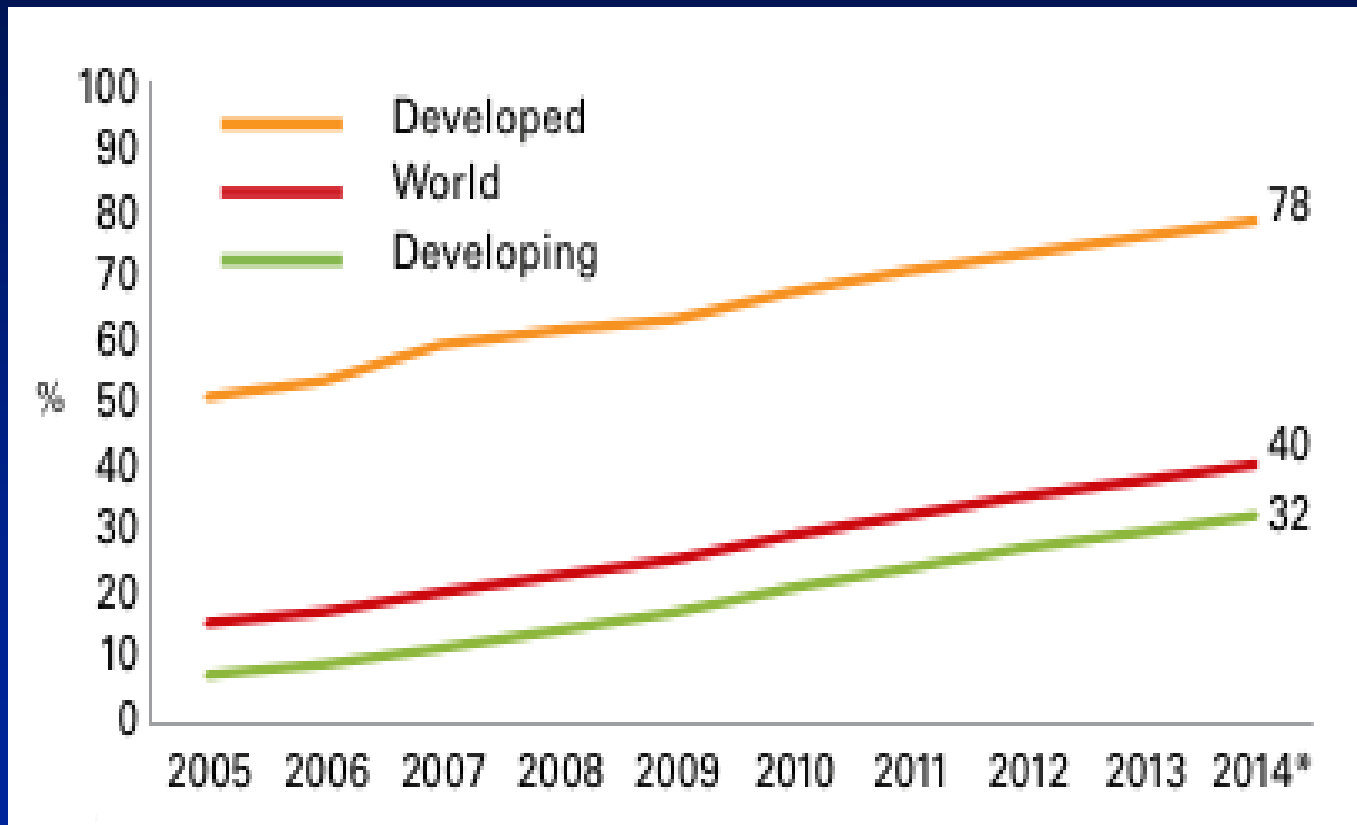


ICT for learning: Can ICT really help the poor to 'leapfrog' in development?



Growth of Internet Use (2005 – 2014)

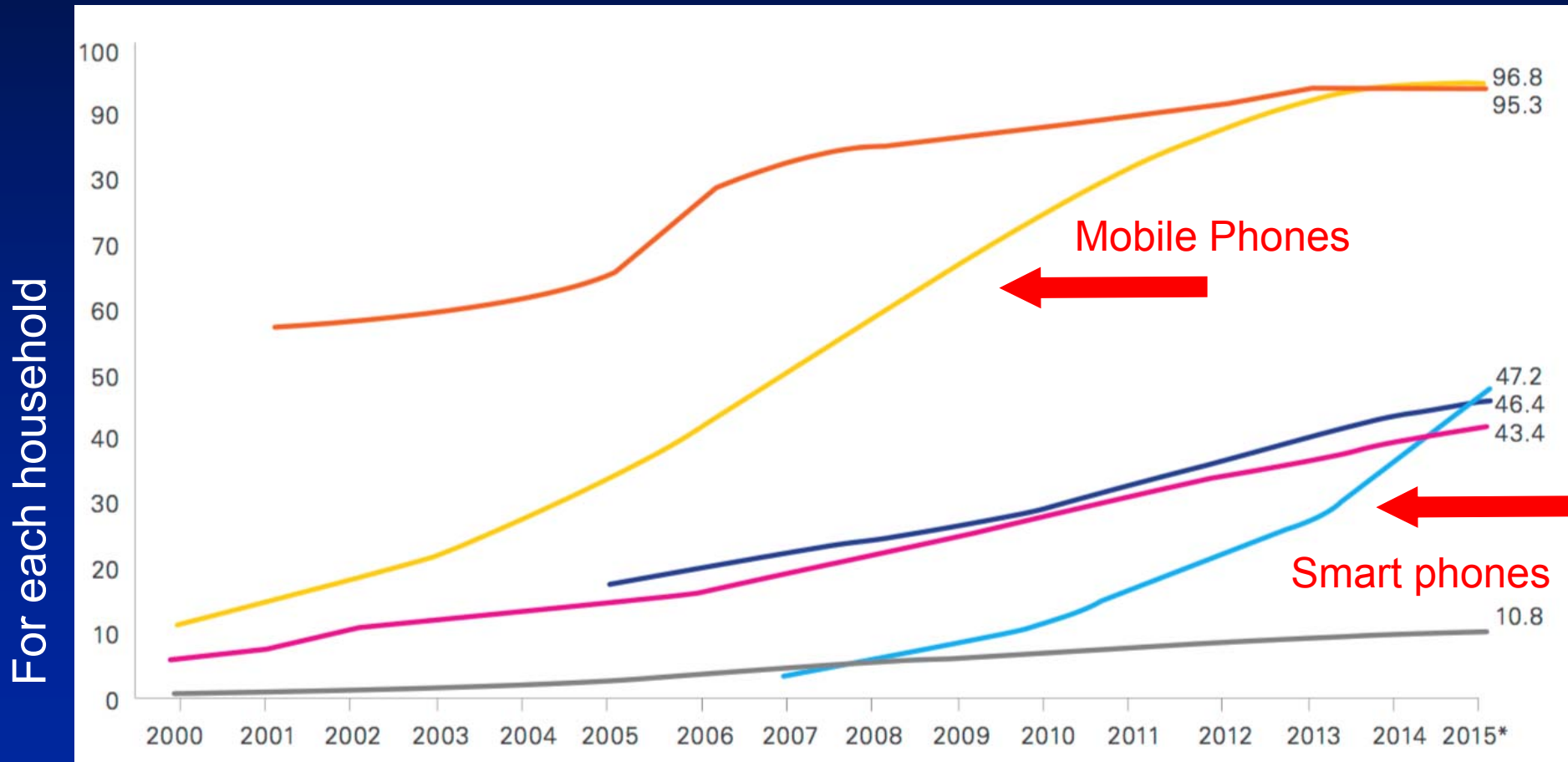
- Almost at saturation in wealthy countries



Source: ITU (2014)

Increase in use of the mobiles from 2000 to 2015 (older than 15 years)

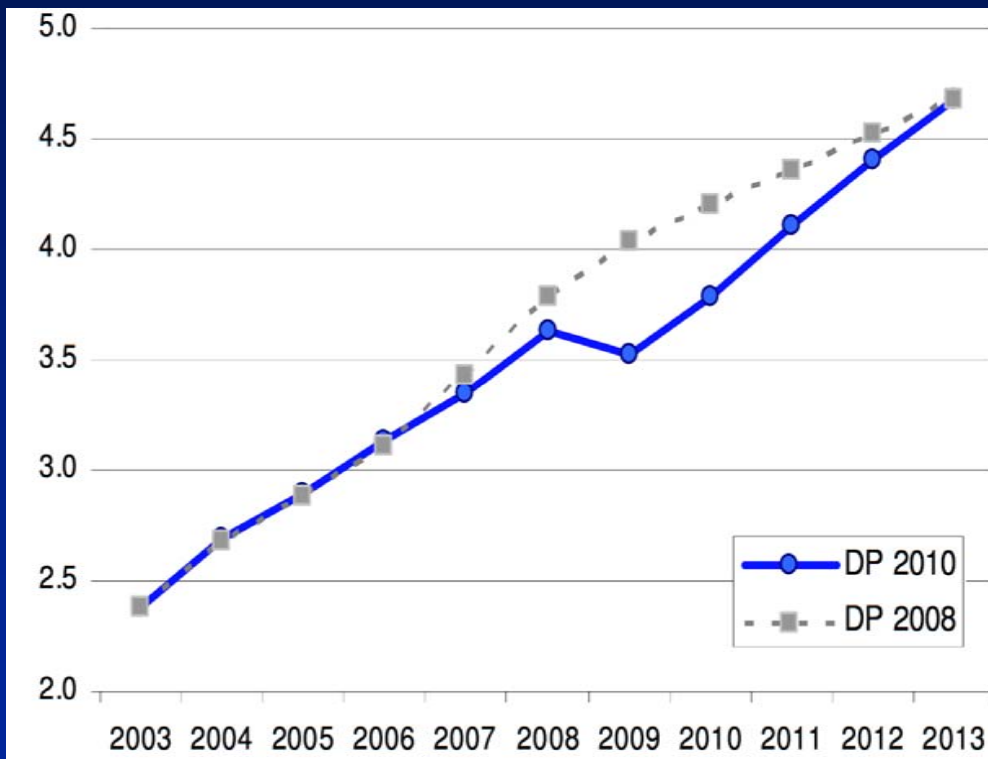
Mobile-cellular telephone subscriptions Individuals using the Internet Population covered by 2G mobile-cellular network
Mobile broadband subscriptions Fixed-broadband subscriptions Households with Internet



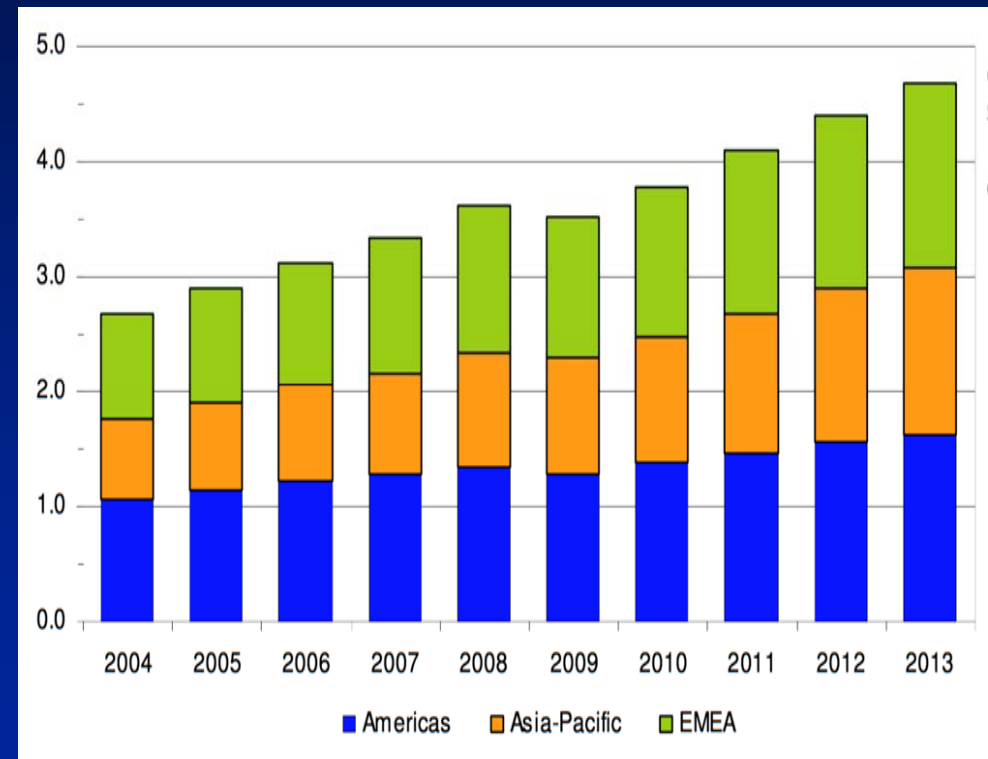
Source: ITU (2015); *Estimated

Also, spending on ICTs is increasing worldwide...

Overall Global ICT Spending
USD trillions



ICT Spending by Region
USD trillions



Source: WITSA (2015)

One difficulty for educational investments: Devices go out of date quickly, and changing every day



From 2005 – How many of these are around today?

Today, access to computers at home is quite variable

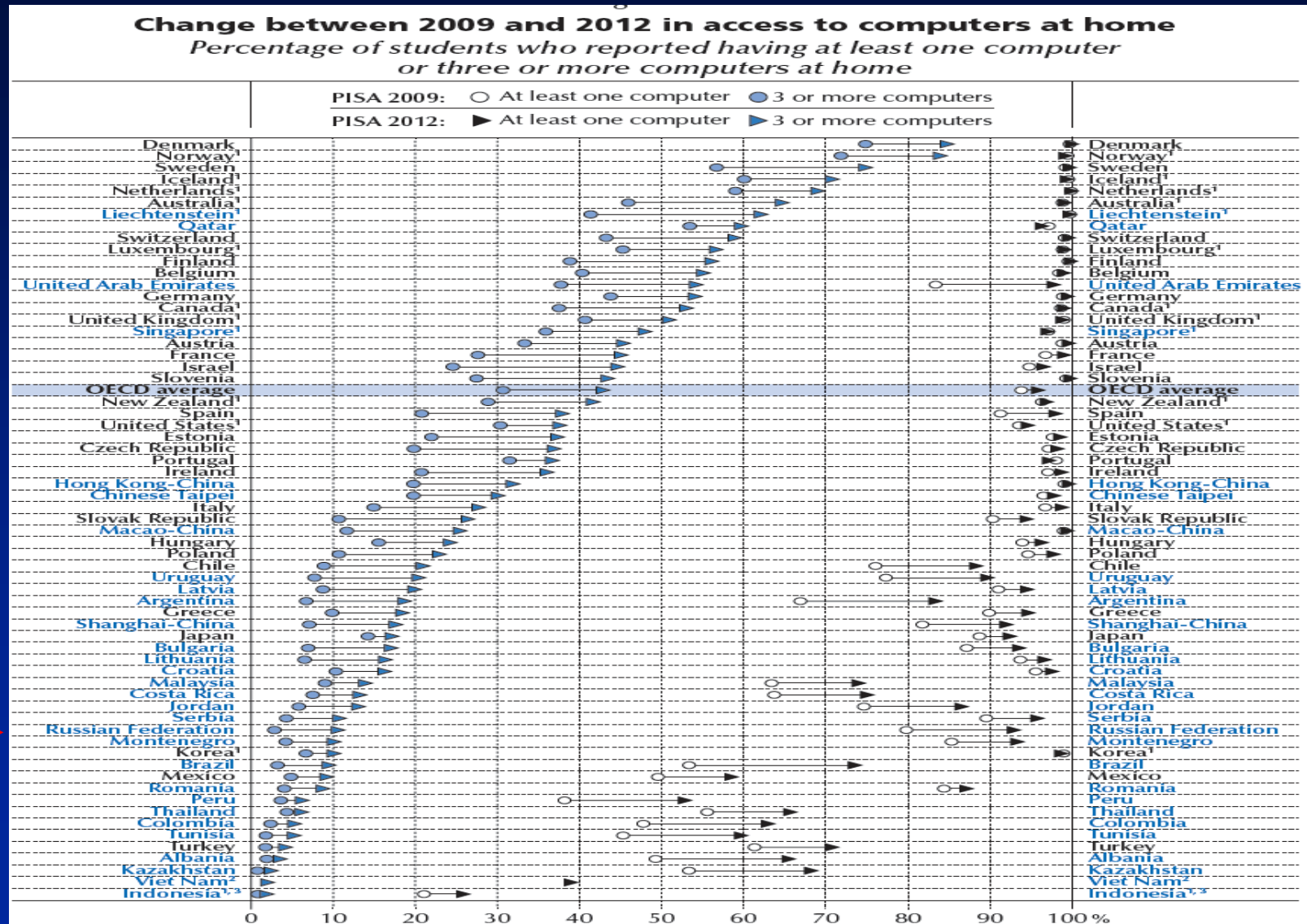
Denmark 85%



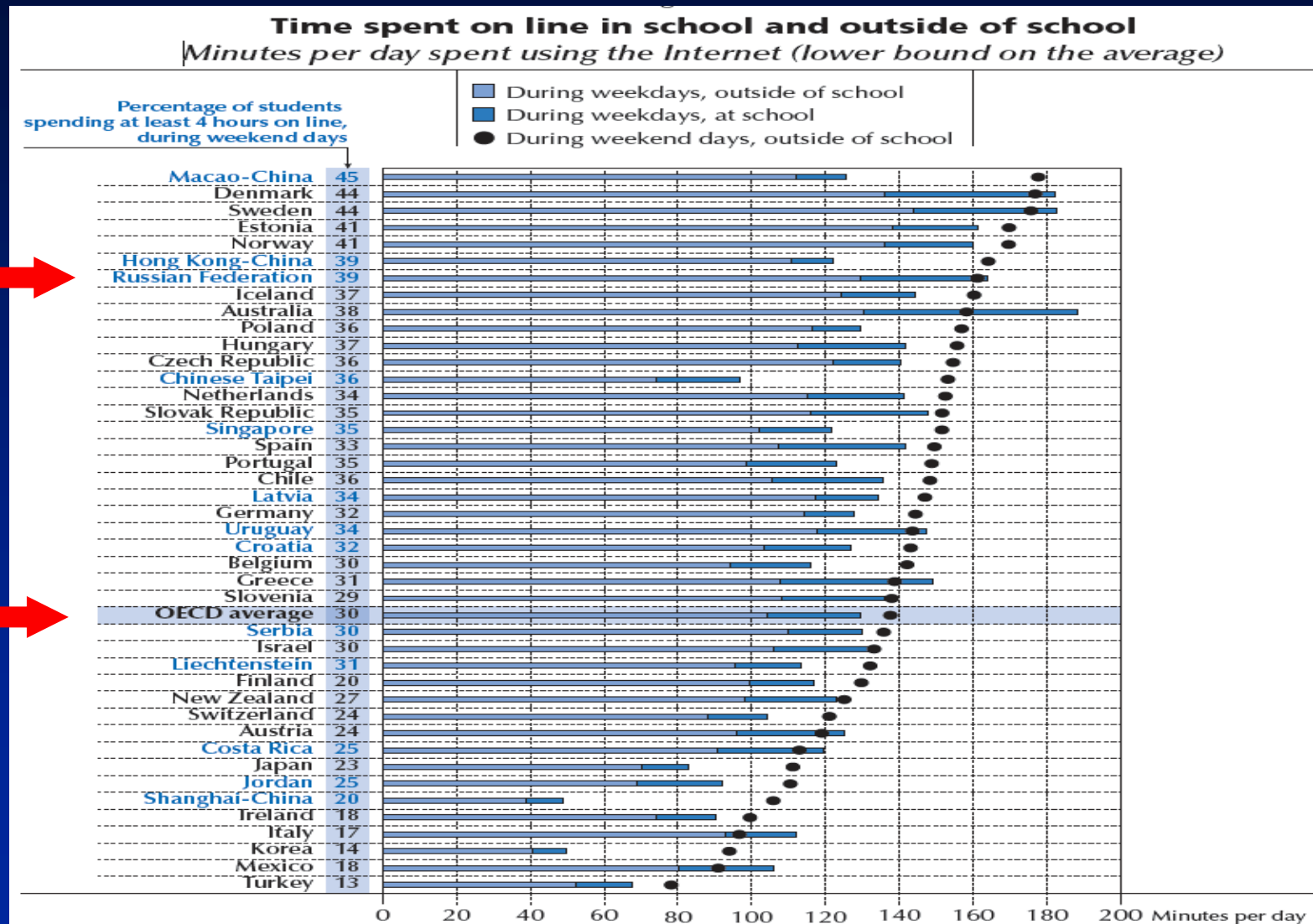
Russia, 10%



OECD, 2015



Time spent online in and out of school also variable: Russia is near the top, but...

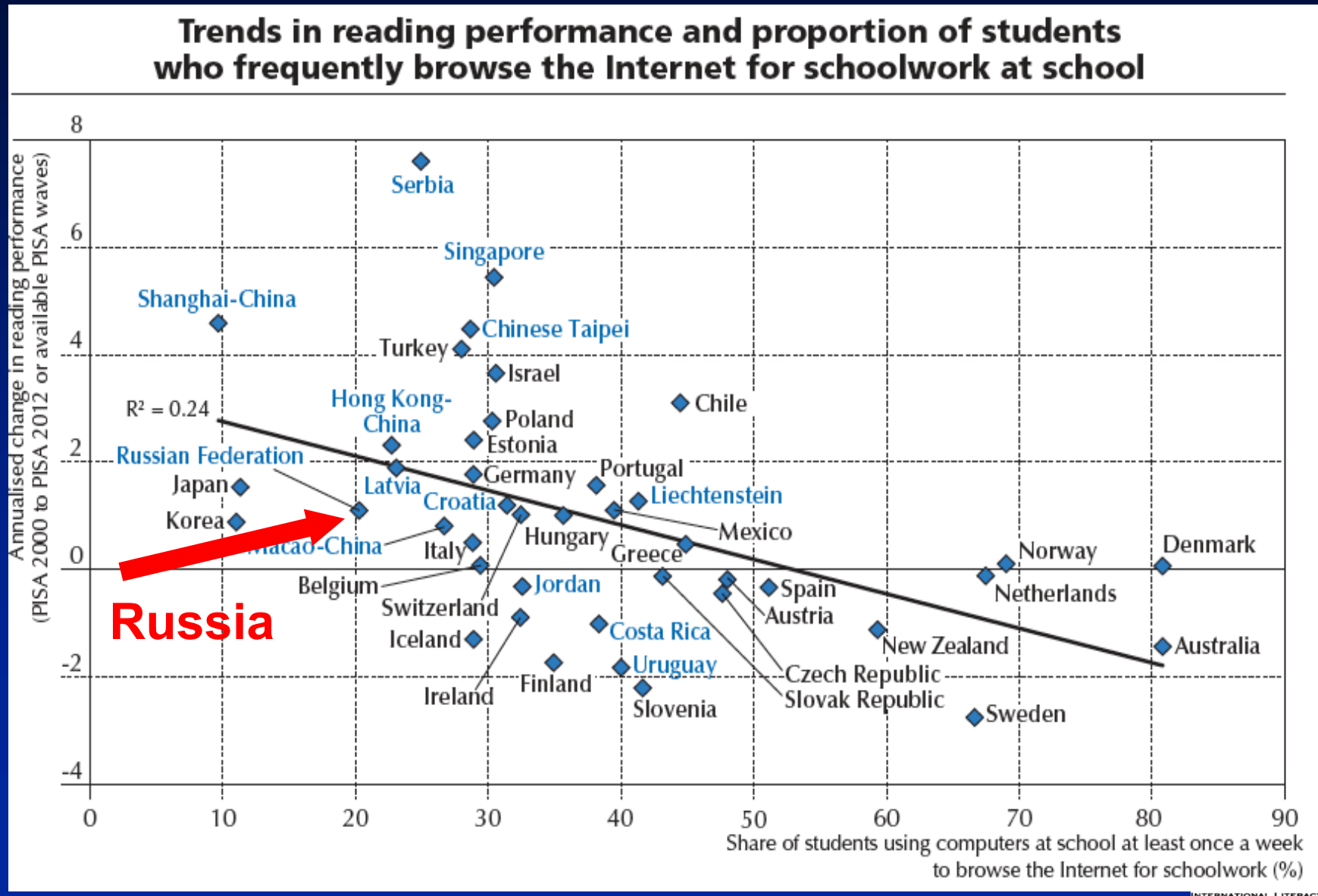


Russia, 160 minutes/day

OECD average, 130 minutes/day

OECD, 2015

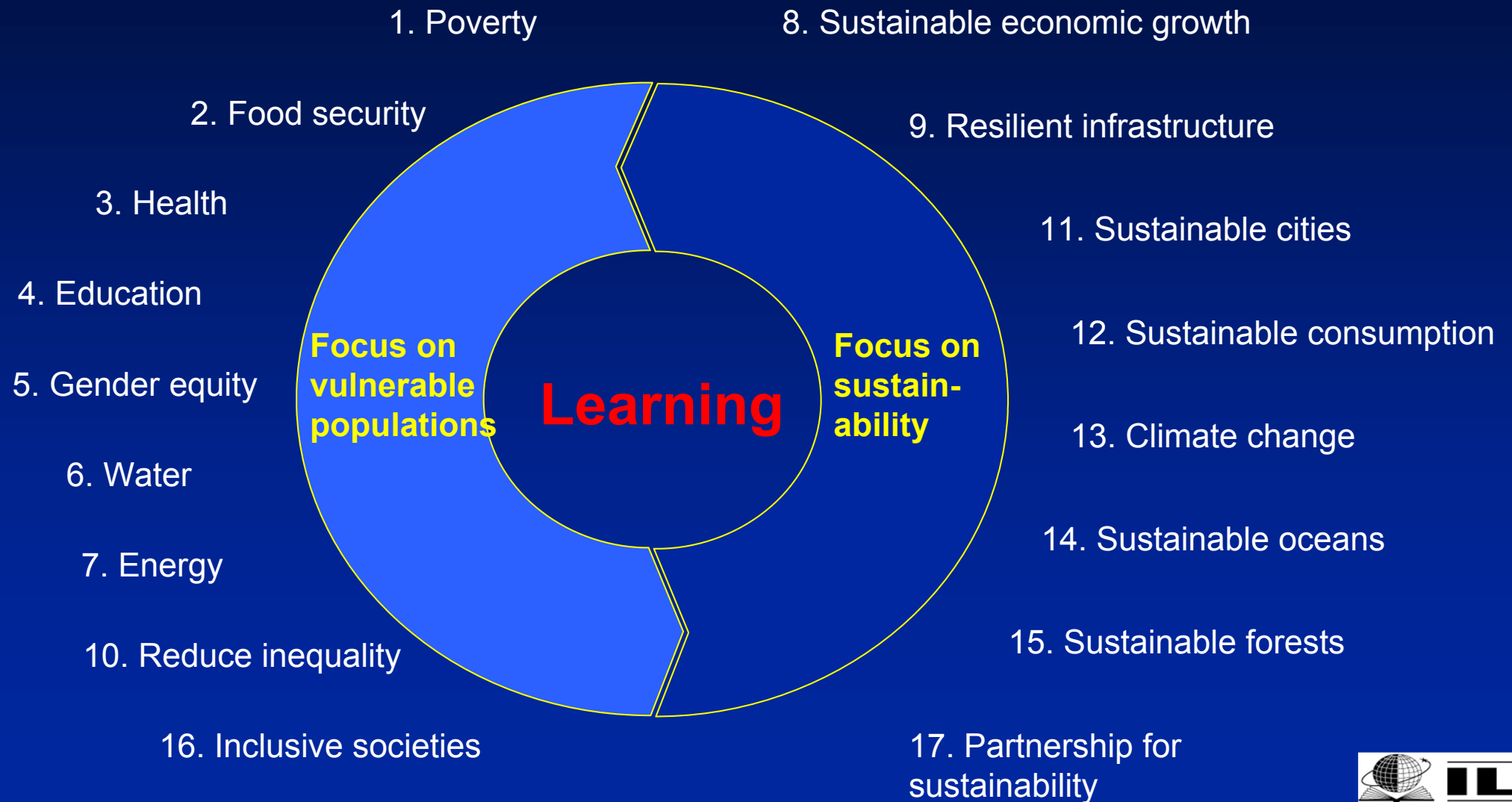
Surprise! Negative trend: Higher frequency of computer use at school leads to lower digital reading skills (across 40 OECD countries)
Access is not always positive!



For the SDGs, we focus on children like Aminata (in Guinea)

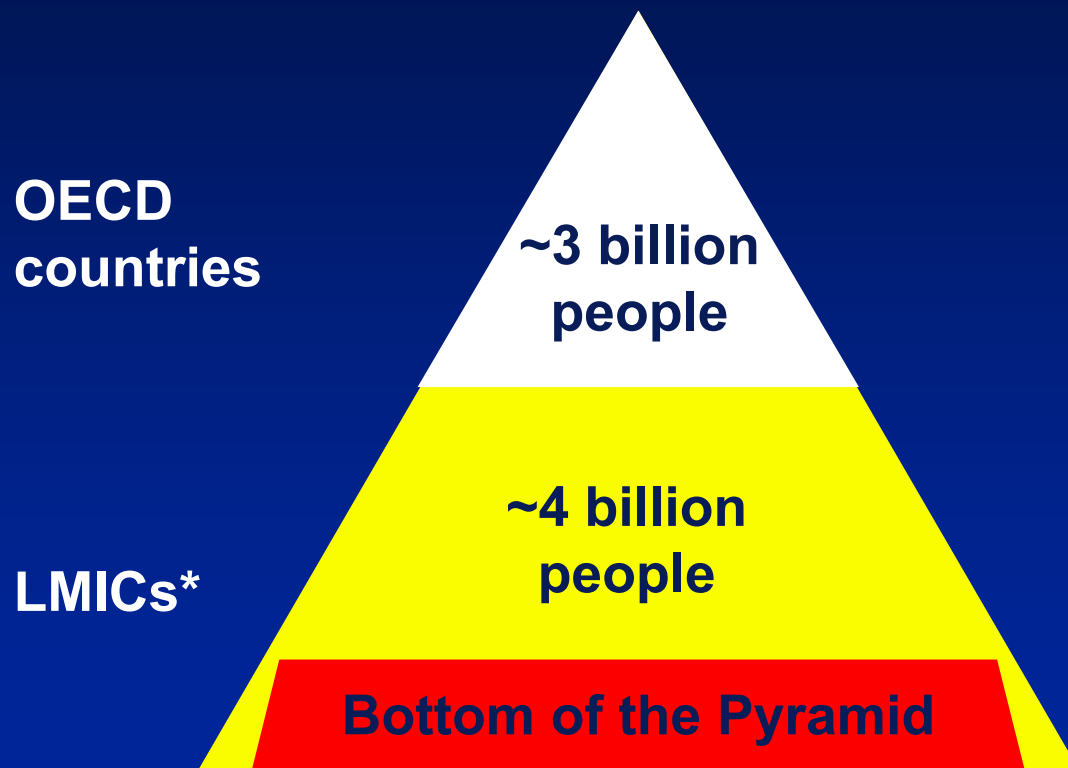


The 17 UN SDGs: They're all about learning



Learning conditions – at the “Bottom of the Pyramid” (B.O.P.) – are inadequate

Some factors related to poor learning



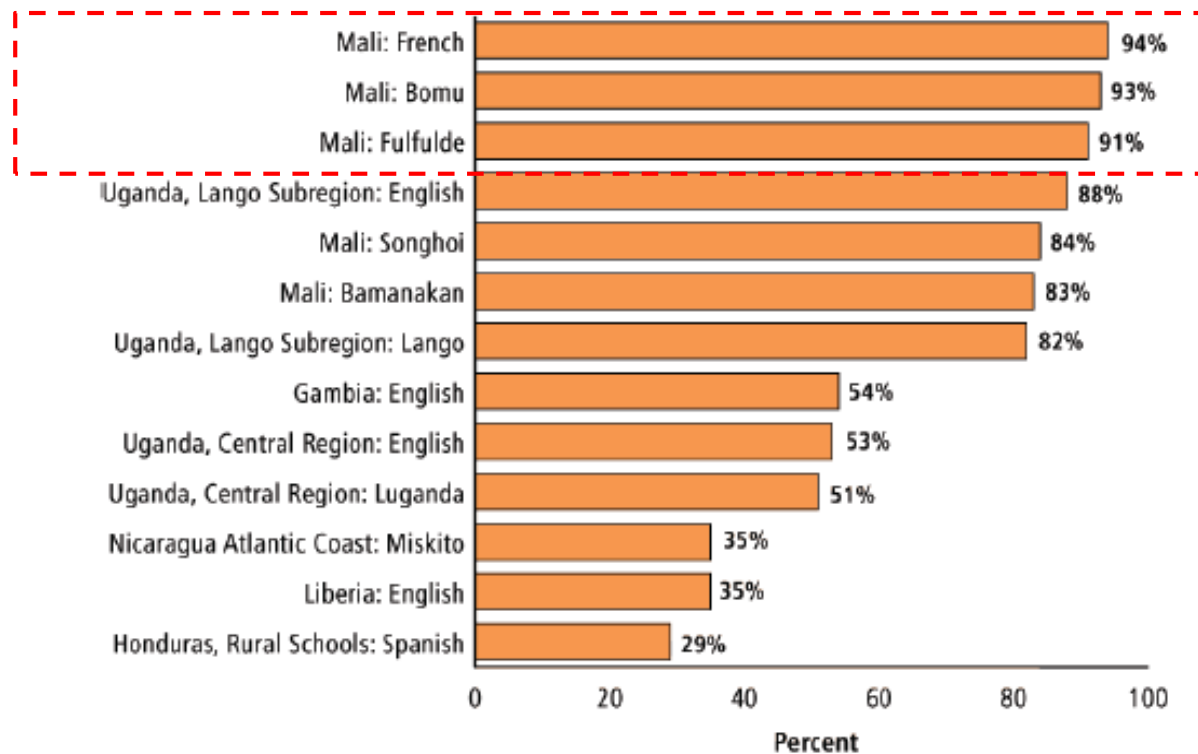
- Poor schools, rural communities
- Poorly trained teachers
- Low literate or illiterate parents
- “Official language” taught in schools, not mother-tongue

*Low and Middle Income Countries

WRI, 2007

Many poor school children cannot read a single word

Exhibit 5. Percentage of Students Who Could Not Read a Single Word, 2008–2009



>90% of Malian second graders can't read a single word in any language

Sources: End of Grade 2 Early Grade Reading Assessments. Complete reports for each country available at www.eddataglobal.org.

By contrast, Russia is doing well in PISA (2014) cognition, reading and math, on average. (40 OECD countries)

Overall index,
cognitive tasks
and education
15 year olds

Russia →

A to Z	Overall Index rank and score	Cognitive Skills rank and score	Educational Attainment rank and score
SOUTH KOREA	[Rank 1] 1.30	[Rank 2] 1.35	[Rank 1] 1.19
JAPAN	[Rank 2] 1.03	[Rank 4] 1.20	[Rank 6] 0.70
SINGAPORE	[Rank 3] 0.99	[Rank 1] 1.65	[Rank 33] -0.33*
HONG KONG-CHINA	[Rank 4] 0.96	[Rank 3] 1.34	[Rank 18] 0.20*
FINLAND	[Rank 5] 0.92	[Rank 5] 0.99	[Rank 4] 0.79
UNITED KINGDOM	[Rank 6] 0.67	[Rank 8] 0.52	[Rank 2] 0.96
CANADA	[Rank 7] 0.60	[Rank 6] 0.77	[Rank 15] 0.25
NETHERLANDS	[Rank 8] 0.58	[Rank 7] 0.57	[Rank 7] 0.58
IRELAND	[Rank 9] 0.51	[Rank 10] 0.49	[Rank 10] 0.55
POLAND	[Rank 10] 0.50	[Rank 16] 0.33	[Rank 3] 0.85
DENMARK	[Rank 11] 0.46	[Rank 17] 0.32	[Rank 5] 0.75
GERMANY	[Rank 12] 0.41	[Rank 12] 0.48	[Rank 14] 0.28
RUSSIA	[Rank 13] 0.40	[Rank 9] 0.50	[Rank 21] 0.19*
UNITED STATES	[Rank 14] 0.39	[Rank 11] 0.49	[Rank 20] 0.19
AUSTRALIA	[Rank 15] 0.38	[Rank 13] 0.43	[Rank 13] 0.29

Overall
Index

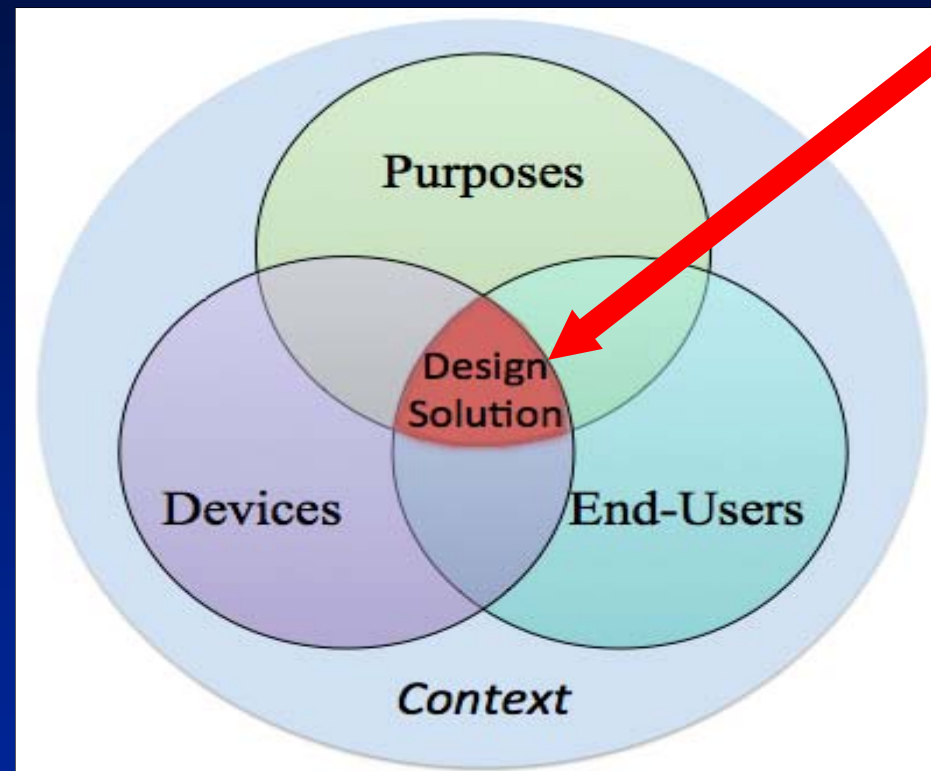
Cognitive
Math

Literacy/graduation
rates

ICTs for education (ICT4E) and development needs a more coordinated approach: A new design framework

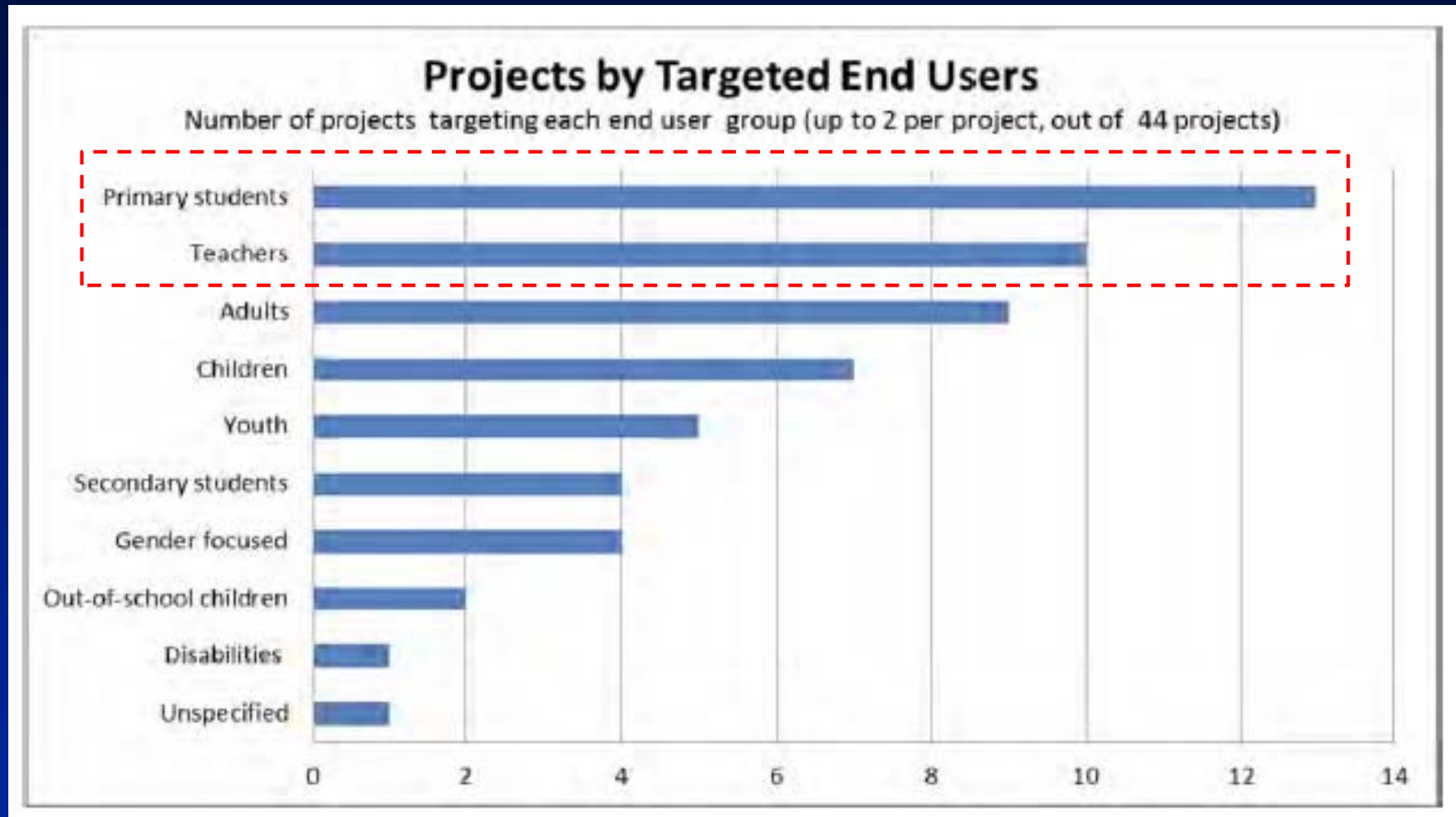
1. Purposes (reading, training, etc)
2. Devices (PC, laptop, tablet, etc)
3. End-Users (students, parents, teachers, etc)
4. Contexts (home, school, etc.)

→ Design Solution



Let's look at one recent review...

ICT “end-user” bias: End-User main focus is on primary students and teachers



What kinds of ICT inputs are “best”?

1. Access

- ✓ Improving dramatically, but limited learning impact

2. Connectivity (broadband)

- ✓ Improving, but mainly urban areas

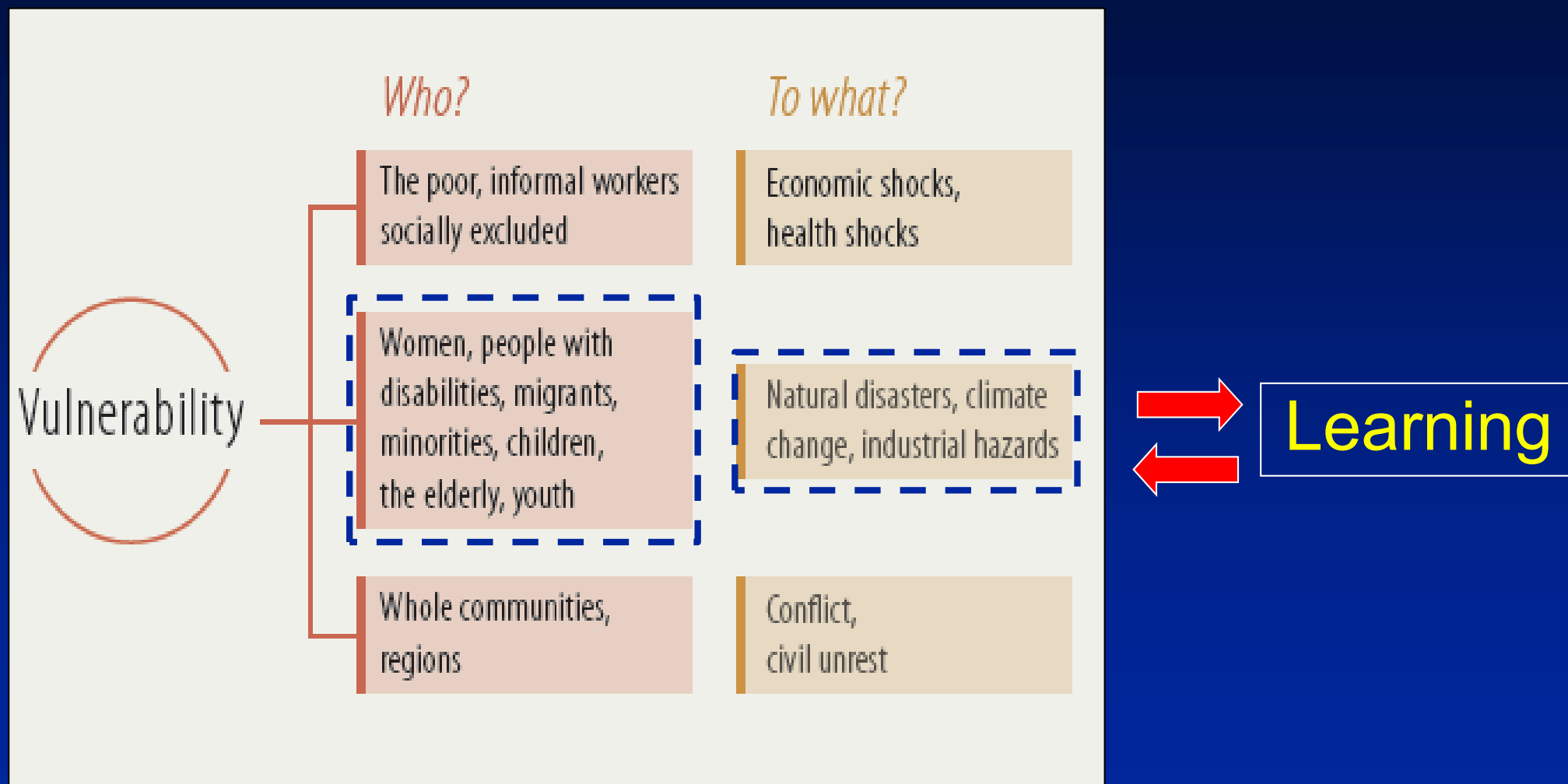
3. Content (local languages and cultural content)

- ✓ Modest efforts, and little among the poor (needs more focus!)

Huge problem: Resource allocation

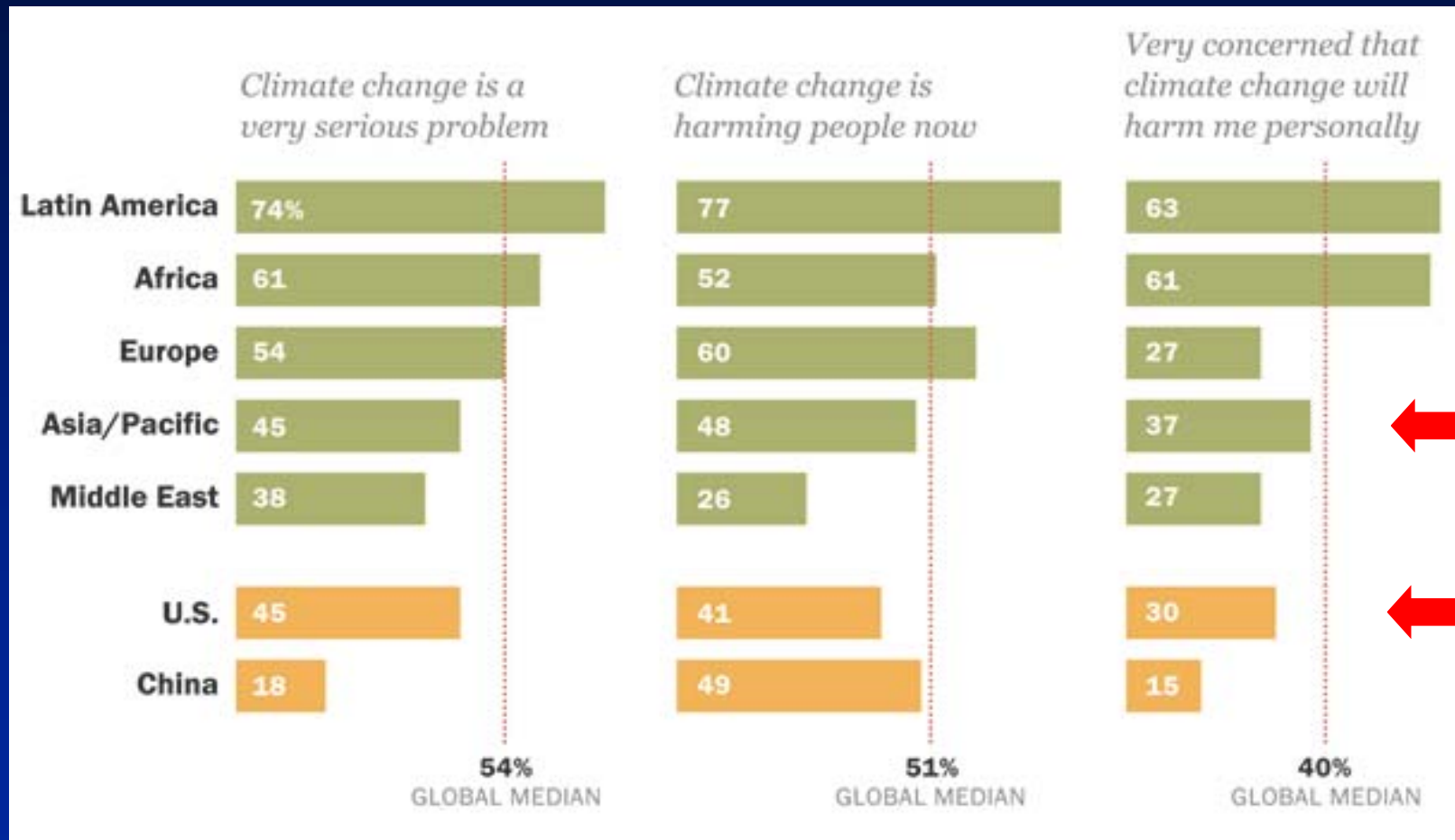
- While “digital divide” is **decreasing between** countries...
- Digital divide is **increasing within** many countries.
- More than 80% of ICT investments in education in developing countries go to **secondary** and **higher education**
- This allocation **excludes** more than **50% of** the population (1-2 billion people) in poor contexts and countries.
- **Local cultural content** receives too little investment

Sustainability/climate change: Vulnerability (gender, indigenous, ethno-linguistic minorities, disabled, migrants, ...) has impact on learning (and vice-versa)



Source: UNDP (2014, p. 19).

Global public awareness of climate change is highly variable (2015): Improved education and learning is central to improvement



Source: Pew Research Center (2015). Note: Regional medians; Russia and Ukraine not included in Europe median; Asia-Pacific median includes China.

Conclusion: Towards “serious inclusion”

- More focus should be on those the poor and marginalized at the “Bottom of the Pyramid” for sustainable development, poverty reduction, improved health, efficient farming, and adapting to climate change.
- New technologies – especially if adapted for inclusion and for learning adapted for local needs – will play a key role in development.
- We must find ways of using ICTs to really impact the lives of the poor. This remains the main challenge of ICT4E and the SDGs.

Спасибо! Thankyou!

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