SDG 4: Quality Education

Education → Improves quality of life → Enables local innovation

Enrollment in primary education in developing countries has reached 91 percent but 57 million primary age children remain out of school.

More than half of children that have not enrolled in school live in sub-Saharan Africa.

An estimated 50 per cent of out-of-school children of primary school age live in conflict-affected areas.

617 million youth worldwide lack basic mathematics and literacy skills.

https://www.un.org/sustainabledevelopment/education/

4.1

Target

- By 2030, ensure that all girls and boys complete **free, equitable and quality primary and secondary** education leading to relevant and effective learning outcomes

Indicator

- Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a **minimum proficiency level** in (i) **reading** and (ii) **mathematics**, by sex

https://sustainabledevelopment.un.org/sdg4

Share of students at end of lower secondary education achieving minimum reading proficiency, 2010-2015

Percentage of students at end of lower secondary education achieving at least a minimum proficiency level in reading, as per nationally representative learning assessments (most recent assessment in the period 2010-2015). The minimum proficiency level in reading and mathematics is as defined by each assessment. Data need to be interpreted with caution since the different assessments are not comparable.

Our World in Data

No data 0%   20%   40%   60%   80%   100%
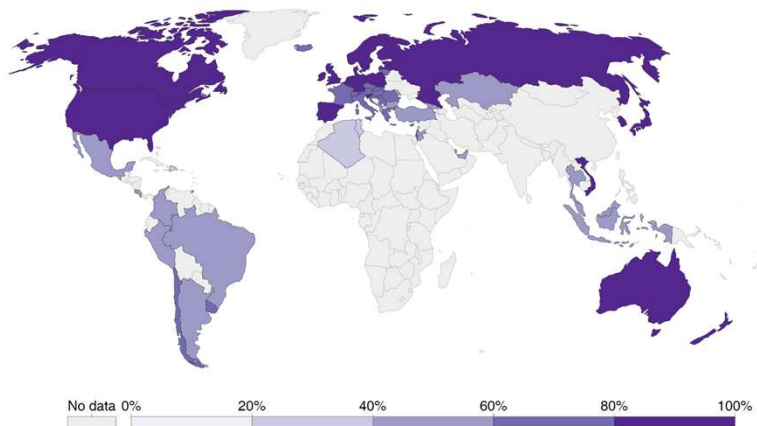
Share of students at end of lower secondary education achieving minimum maths proficiency, 2010-2015

Percentage of students at end of lower secondary education achieving at least a minimum proficiency level in mathematics, as per nationally representative learning assessments (most recent assessment in the period 2010-2015). The minimum proficiency level in reading and mathematics is as defined by each assessment. Data need to be interpreted with caution since the different assessments are not comparable.

Our World in Data

No data 0%   20%   40%   60%   80%   100%
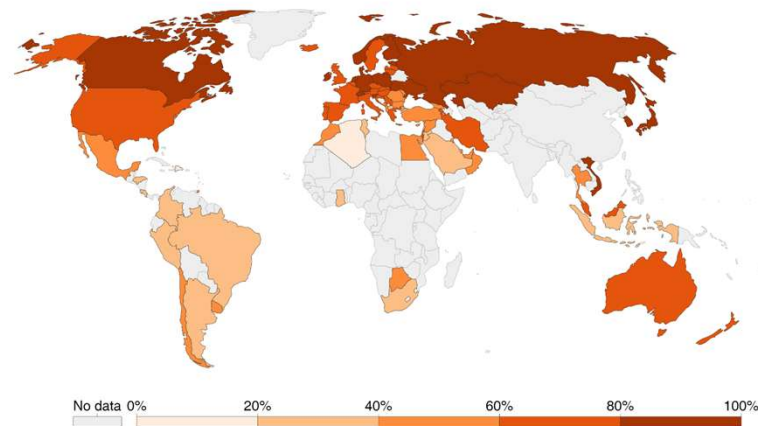
The lack of data in Africa and Asia is an indicator of less than optimal proficiency.
Data from UNESCO Institute for Statistics (UIS)

Children leaving school before completing their Primary Education

Children out of primary school

61 Million children are still out of primary school.

32 Million of these children are Girls.

11.07 Million   13.54 Million

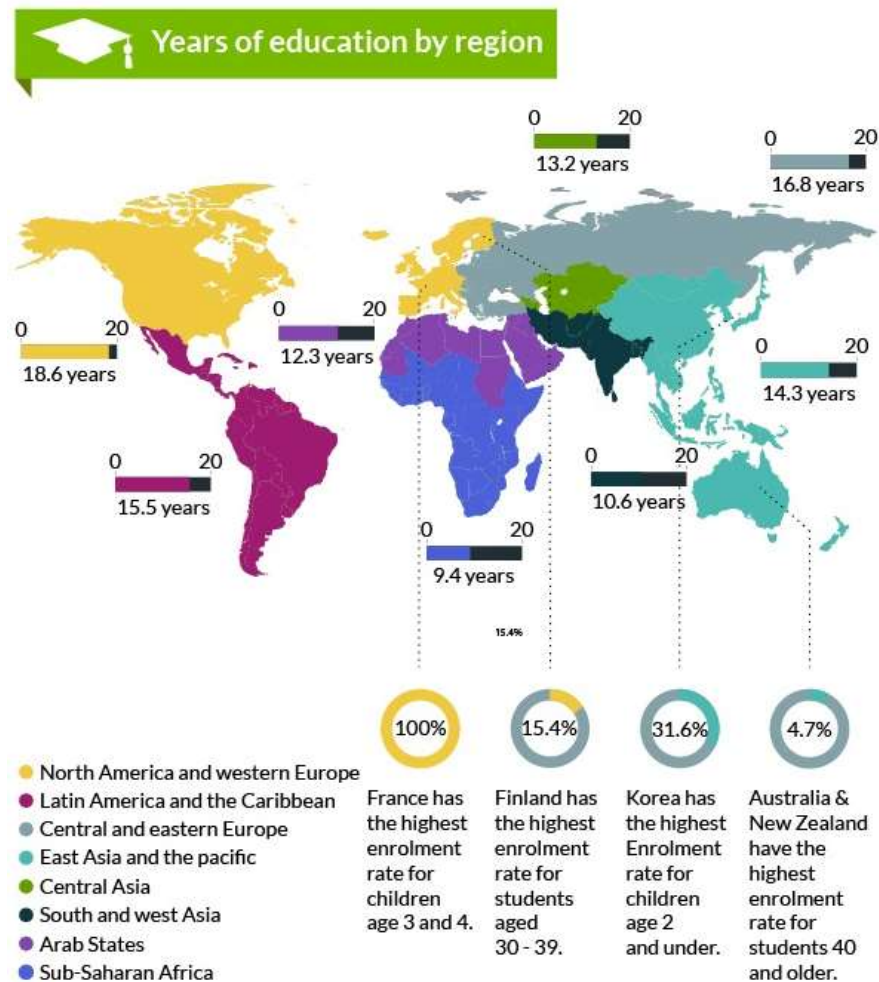In the Sub-Saharan, 11.07 million children leave school before completing their primary education. In South and West Asia, that number reaches 13.54 million.

1 in 5

15 to 24 years old has not completed primary school and lacks skills for work.

North America and Europe have the highest averages for years in school- 18.6 years
Sub-Saharan Africa is about half the age- 9.4
Oecd.org UNESCO

Years of education by region

	0	20
13.2 years

16.8 years

18.6 years

12.3 years

14.3 years

15.5 years

10.6 years

9.4 years

15.4%

100%   15.4%   31.6%   4.7%

- North America and western Europe
- Latin America and the Caribbean
- Central and eastern Europe
- East Asia and the pacific
- Central Asia
- South and west Asia
- Arab States
- Sub-Saharan Africa

France has the highest enrolment rate for children age 3 and 4.

Finland has the highest enrolment rate for students aged 30 - 39.

Korea has the highest Enrolment rate for children age 2 and under.

Australia & New Zealand have the highest enrolment rate for students 40 and older.
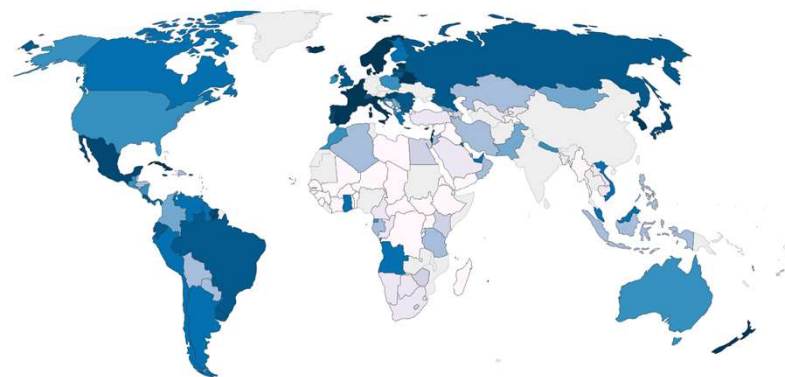
4.2

Target

- By 2030, ensure that all girls and boys have access to quality early childhood development, care and **pre-primary education** so that they are ready for primary education

Indicator

- Proportion of children **under 5** years of age who are **developmentally on track** in health, learning and psychosocial well-being, by sex
- Participation rate in **organized learning** (one year before the official primary entry age), by sex

https://sustainabledevelopment.un.org/sdg4

Net enrolment rate, pre-primary, both sexes (%), 2008 — Net enrolment rate, pre-primary, both sexes (%), 2015. Source: World Bank. Our World in Data.

There have been increases since 2008 in developed countries, but none in Sub-Saharan Africa
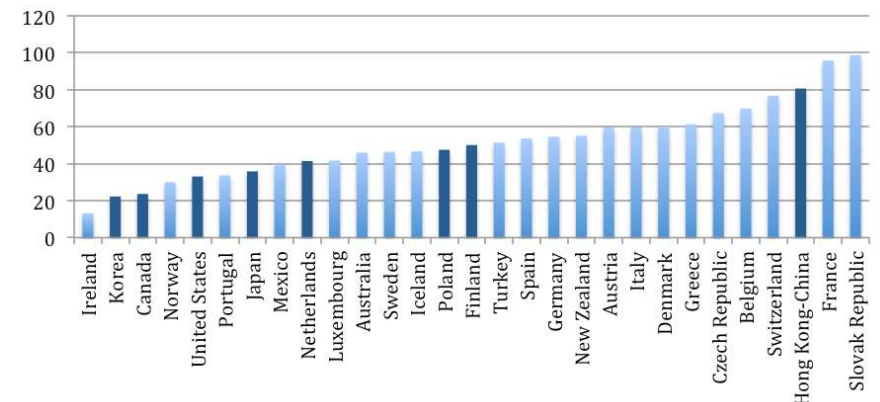
Importance of Pre-primary Education

"PISA consistently finds that 15-year-old students who had attended pre-primary education tend to perform better than those who had not attended pre-primary education, even after accounting for the students' socioeconomic status." – OECD

Children from more wealthy homes are more likely to attend pre-primary education. The socioeconomically disadvantaged are less likely to attend, but would benefit the most.

In most cases it is costly to attend, as is quality daycare, which are highly helpful for children's development.

◦ Children need attentive, engaged caregivers, but many socioeconomically disadvantaged mothers don't have the time for the engagement or the money for quality daycares or pre-k.

◦ These early years have a huge effect on children's thoughts about learning and values.

Mathematics Score Difference Between Students Who Have Attended Pre-primay Education and Those Who Have Not

http://ncee.org/2014/09/statistic-of-the-month-the-importance-of-pre-primary-education-and-care/
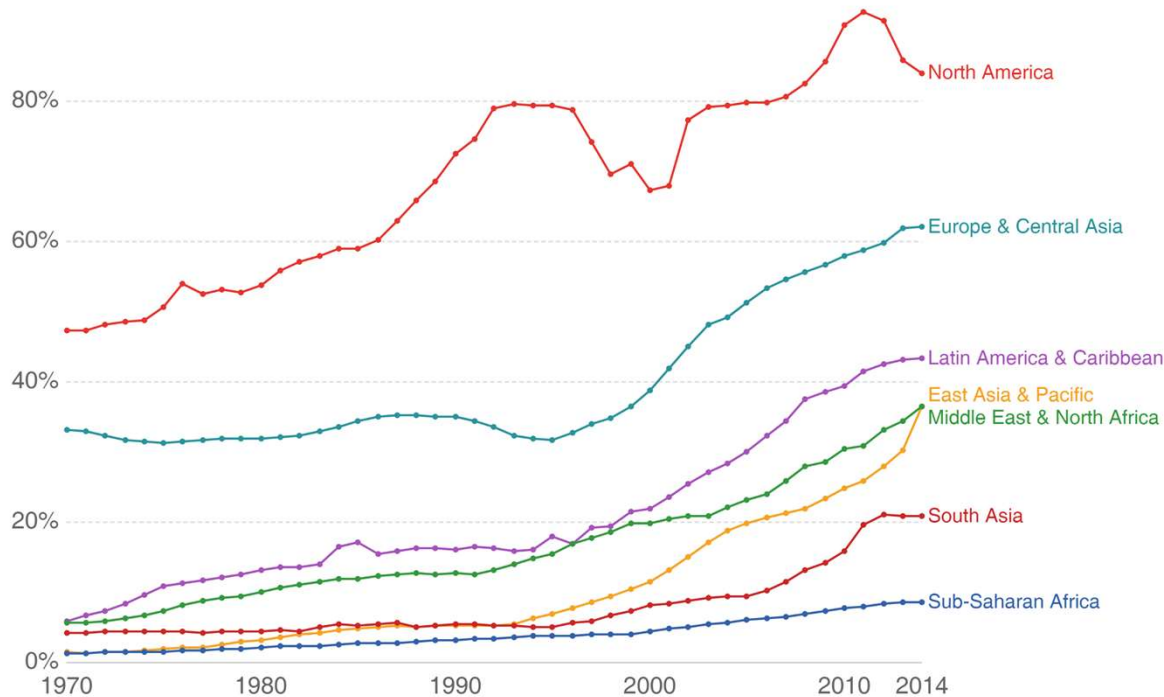
Target

- By 2030, ensure equal access for all women and men to affordable and **quality technical, vocational and tertiary education**, including university

Indicator

- Participation rate of youth and adults in **formal and non-formal education** and training in the previous 12 months, by sex

https://sustainabledevelopment.un.org/sdg4

Gross enrollment ratio in tertiary education

Total enrollment in tertiary education, regardless of age, expressed as a percentage of the total population of the five-year age group following on from secondary school leaving.

Our World in Data

Source: World Bank

OurWorldInData.org/tertiary-education/ • CC BY

The amount of students who carried on from high school or equivalent to college or professional schooling

4.4

Target

- By 2030, substantially increase the number of youth and adults who have relevant **skills**, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Indicator

- Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

https://sustainabledevelopment.un.org/sdg4

Proportion of youth and adults with ICT skills, male vs. female, 2015

The proportion of youth and adults with information and communications technology (ICT) skills, by type of skill as defined as the percentage of youth (aged 15-24 years) and adults (aged 15 years and above) that have undertaken certain computer-related activities in a given time period. In this case, it is measured as the share of youth and adults who have skills in creating electronic presentations with presentation software.

Source: UNESCO Institute for Statistics

CC BY
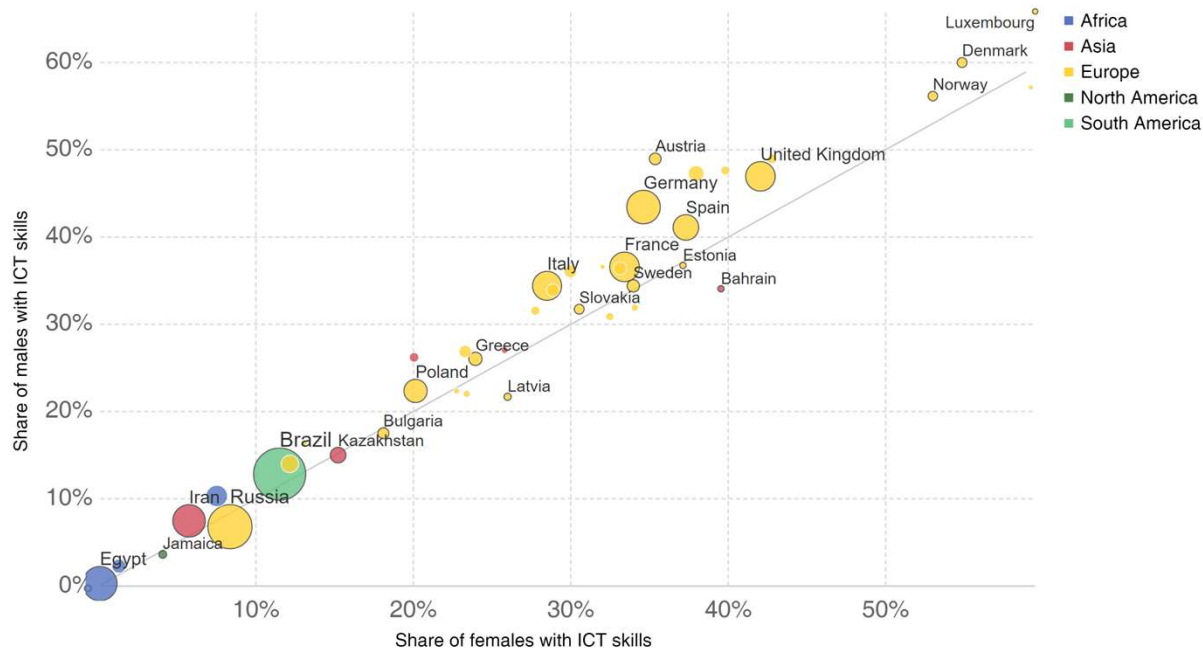
Not much data for North America or would probably be in line with Europe.

ICT skills in this graph- have created an electronic presentation, so where an accessible computer can be afforded in schools

Target

- By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the **vulnerable**, including persons with disabilities, indigenous peoples and children in vulnerable situations

Indicator

- Parity indices (**female/male, rural/urban, bottom/top** wealth quintile and others such as disability status, **indigenous peoples** and **conflict-affected**, as data become available) for all education indicators on this list that can be disaggregated

https://sustainabledevelopment.un.org/sdg4

Total net enrolment rate, primary, gender parity index (GPI), 2000

Ratio of female total net enrolment rate for primary to the male total net enrolment rate for primary. It is calculated by dividing the female value for the indicator by the male value for the indicator. A GPI equal to 1 indicates parity between females and males. In general, a value less than 1 indicates disparity in favor of males and a value greater than 1 indicates disparity in favor of females.
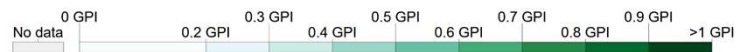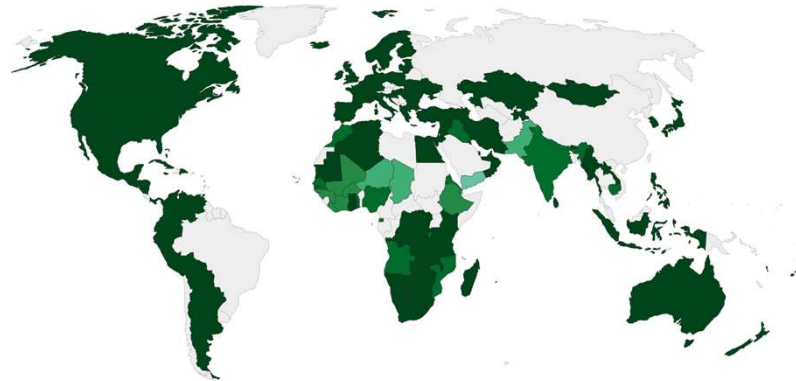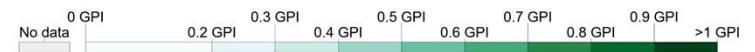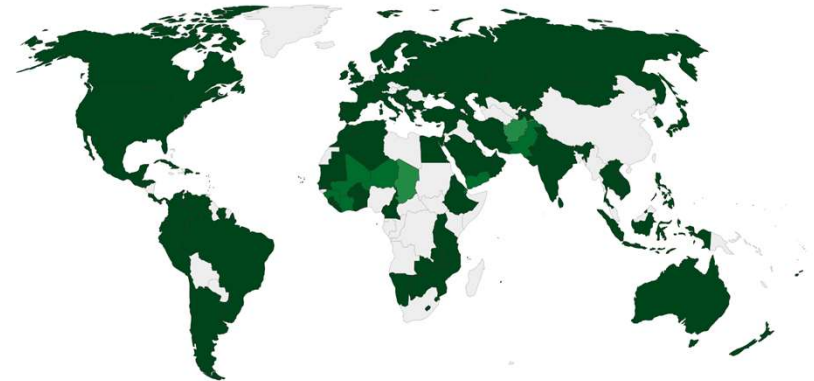
Total net enrolment rate, primary, gender parity index (GPI), 2015

Ratio of female total net enrolment rate for primary to the male total net enrolment rate for primary. It is calculated by dividing the female value for the indicator by the male value for the indicator. A GPI equal to 1 indicates parity between females and males. In general, a value less than 1 indicates disparity in favor of males and a value greater than 1 indicates disparity in favor of females.

Our World in Data

No data   0 GPI   0.2 GPI   0.3 GPI   0.4 GPI   0.5 GPI   0.6 GPI   0.7 GPI   0.8 GPI   0.9 GPI   >1 GPI

Source: World Bank   CC BY

Dividing number of girls in primary school by number of boys to get a ratio.
In 2015, only less than 1 in some of Africa and West Asia. Some
improvement seen since 2000

4.6

Target

- By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve **literacy and numeracy**

Indicator

- Percentage of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex

https://sustainabledevelopment.un.org/sdg4

Youth literacy rate, female, 2015
Number of females age 15 to 24 years who can both read and write with understanding a short simple statement on their everyday life, divided by the female population in that age group. Generally, 'literacy' also encompasses 'numeracy', the ability to make simple arithmetic calculations.
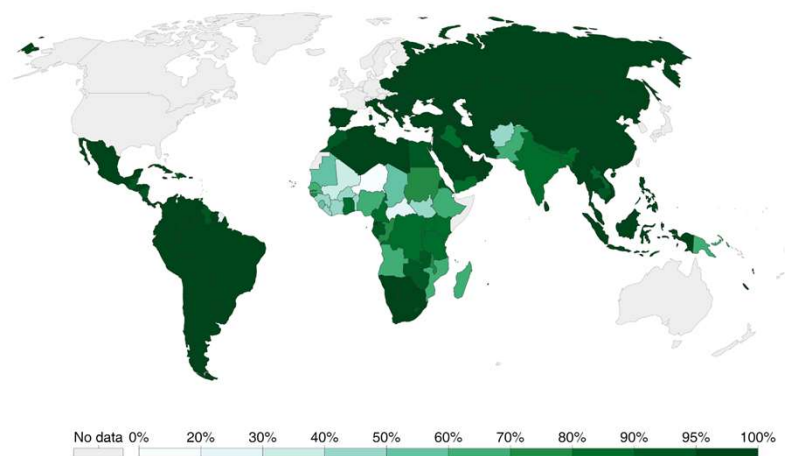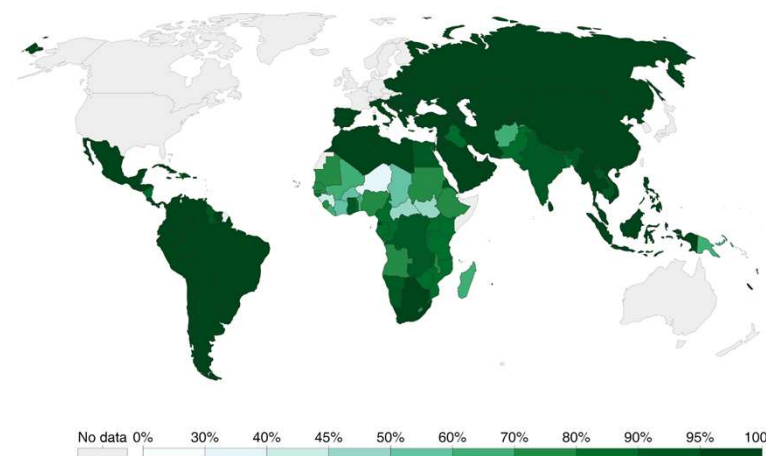
Source: UNESCO

Youth literacy rate, male, 2015
Number of males age 15 to 24 years who can both read and write with understanding a short simple statement on their everyday life, divided by the male population in that age group. Generally, 'literacy' also encompasses 'numeracy', the ability to make simple arithmetic calculations.

Source: UNESCO

Issues in Sub-Saharan Africa and West Asia. Slightly higher percentages for males.
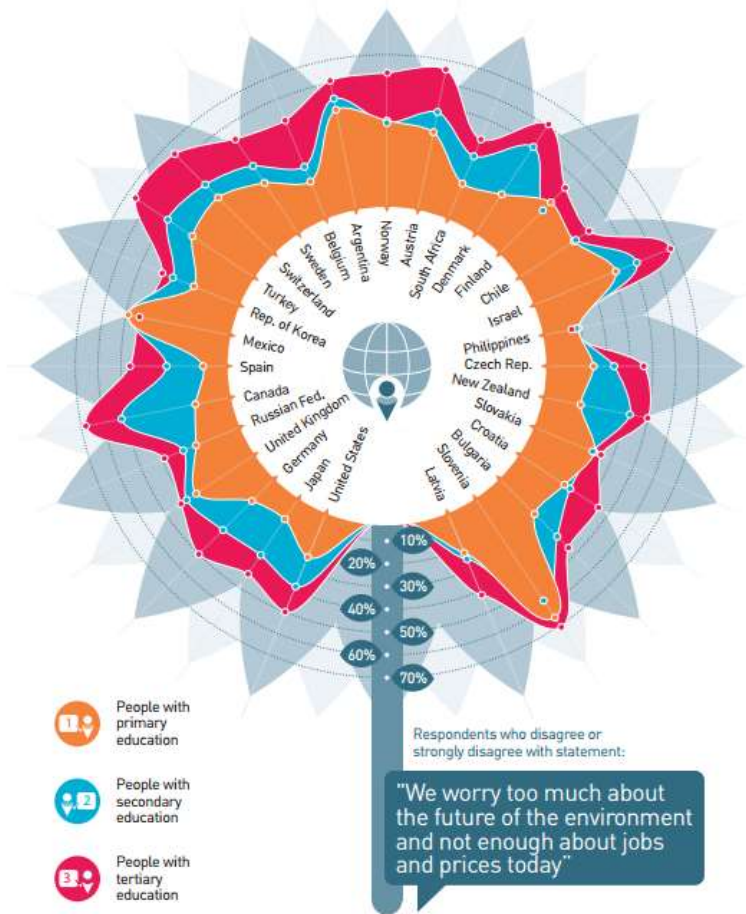
Target

- By 2030, ensure that all learners acquire the knowledge and skills needed to **promote sustainable development**, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development

Indicator

- Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are **mainstreamed** at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment

https://sustainabledevelopment.un.org/sdg4

HIGHER LEVELS OF EDUCATION LEAD TO MORE CONCERN FOR THE ENVIRONMENT

People with primary education
People with secondary education
People with tertiary education

Respondents who disagree or strongly disagree with statement:

"We worry too much about the future of the environment and not enough about jobs and prices today"

Source: National Centre for Social Research (2013), based on the 2010 International Social Survey Programme data.

No measure for sustainability and global citizen education directly.
An interesting graphic showing the benefit of education overall for concern for our planet.

4.B

Target

- By 2020, substantially expand globally the number of **scholarships** available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries
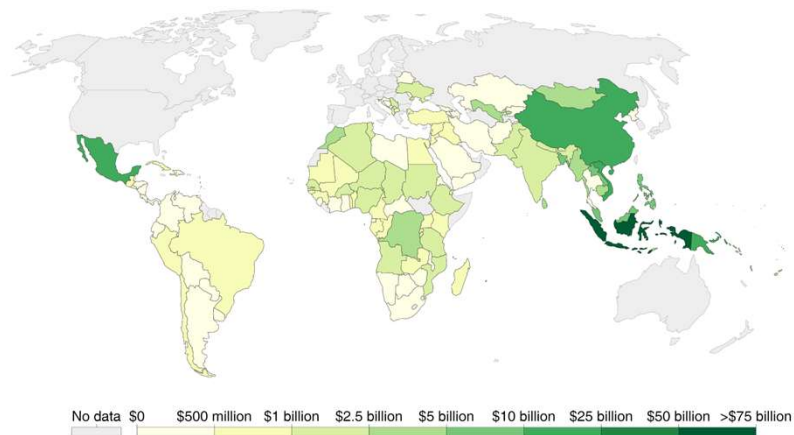
Indicator

- Volume of official development assistance flows for scholarships by sector and type of study

Gross overseas development assistance (ODA) from all donors for scholarships, 2006
Scholarships are defined as financial aid awards for individual students and contributions to trainees. The beneficiary students and trainees are nationals of developing countries. Financial aid awards include bilateral grants to students registered for systematic instruction in private or public institutions of higher education to follow full-time studies or training courses in the donor country.

No data $0 $500 million $1 billion $2.5 billion $5 billion $10 billion $25 billion $50 billion >$75 billion
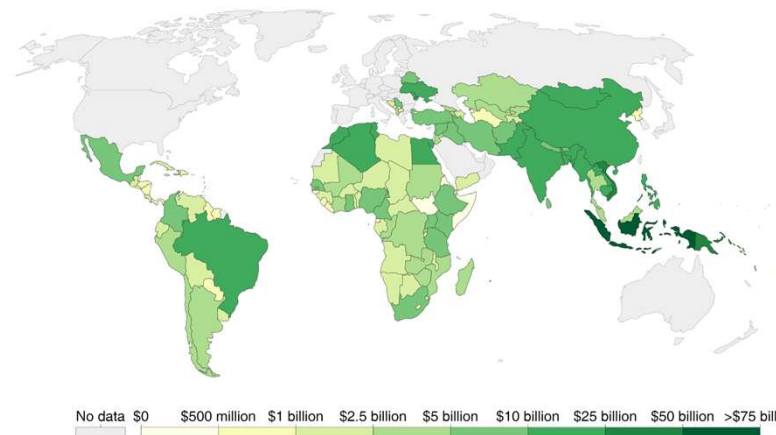
Source: Organisation for Economic Co-operation and Development (OECD)   CC BY

Gross overseas development assistance (ODA) from all donors for scholarships, 2015
Scholarships are defined as financial aid awards for individual students and contributions to trainees. The beneficiary students and trainees are nationals of developing countries. Financial aid awards include bilateral grants to students registered for systematic instruction in private or public institutions of higher education to follow full-time studies or training courses in the donor country.

No data $0 $500 million $1 billion $2.5 billion $5 billion $10 billion $25 billion $50 billion >$75 billion

Source: Organisation for Economic Co-operation and Development (OECD)   CC BY

An increase of at least double in developing areas

4.C

Target

- By 2030, substantially increase the **supply of qualified teachers**, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States
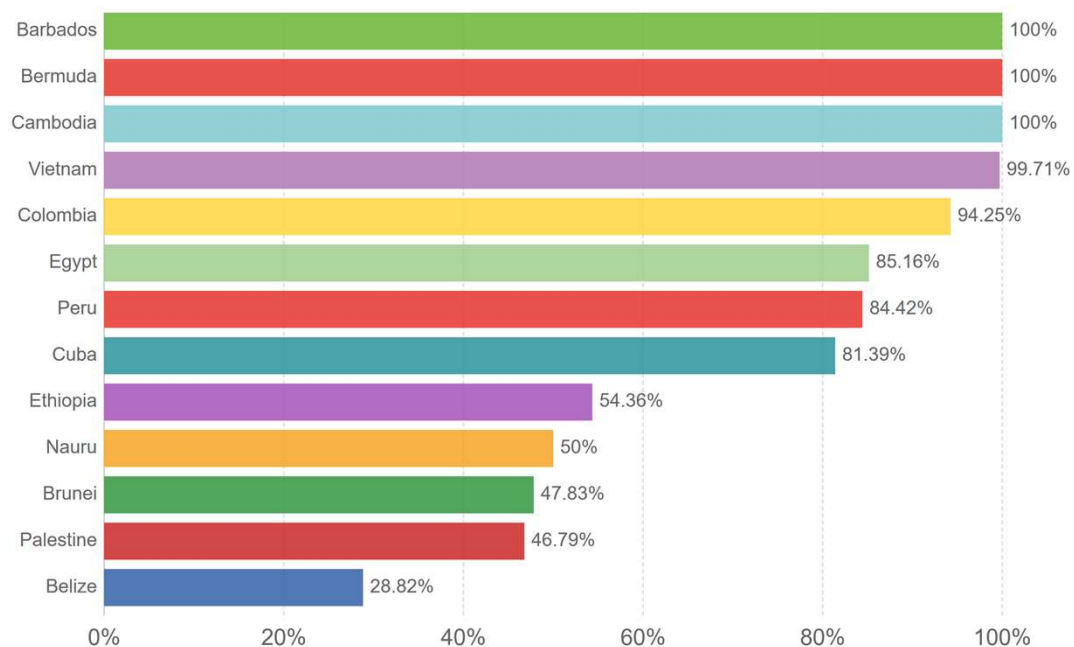
Indicator

- Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country

An overview of the percentage of teachers who have the proper academic qualifications to teach

Brings educational systems to the most disadvantaged children
- 50% of refugee children are enrolled in primary school

Builds schools, trains teachers, gives kits
https://www.unicef.org/education

Afghan refugees in Pakistan
- Gamberi settlement had 1000 displaced families
- Couldn't afford or allowed to go to school
- Community based schools in tents
https://medium.com/@UNICEFAfghanistan/education-shaping-lives-of-children-on-the-move-fb5a94e4debd

E-Learning Sudan

- In Sudan, 1/3 of schools are not suitable for education because of lack of infrastructure or location
- E-Learning Sudan is an interactive learning game through tablets created by War Child Holland
- Aimed at primary education, started with just math
- A study showed the children had improved math skills and continued their motivation to learn
- Now has program called Can't Wait to Learn

https://borgenproject.org/e-learning-sudan-education/

Ted Talks

Effects of Education:

https://www.youtube.com/watch?v=sv3CLr84UJU

SDG Overview and History of Sustainability:

https://www.youtube.com/watch?v=A7gZHzNQXBA