Last updated: 19 July 2016  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.5: 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 4.5.1: 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  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
  
  
UNESCO Institute for Statistics (UNESCO-UIS)  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
  
  
Parity indices require data for the specific groups of interest. They represent the ratio of the indicator value for one group to that of the other. Typically, the likely more disadvantaged group is placed in the numerator. A value of exactly 1 indicates parity between the two groups.  
  
  
  
Rationale:  
  
  
  
To measure the general level of disparity between two sub-populations of interest with regard to a given indicator. The further from 1 the parity index lies, the greater the disparity between the two groups of interest.  
  
  
  
Concepts:  
  
  
  
See metadata for relevant underlying indicator.  
  
  
  
Comments and limitations:  
  
  
  
The indicator is not symmetrical about 1 but a simple transformation can make it so (by inverting ratios that exceed 1 and subtracting them from 2). This will make interpretation easier.  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
The indicator value of the likely more disadvantaged group is divided by the indicator value of the other sub-population of interest.   
  
  
  
DPI = [Indi]d  
  
  
  
[Indi]a  
  
  
  
where:  
  
  
  
DPI = the Dimension (Gender, Wealth, Location, etc.) Parity Index  
  
  
  
Indi = the Education 2030 Indicator i for which an equity measure is needed.  
  
  
  
d = the likely disadvantaged group (e.g. female, poorest, etc.)  
  
  
  
a = the likely advantaged group (e.g. male, richest, etc.)  
  
  
  
Disaggregation:  
  
  
  
None because the parity indices directly compare two sub-populations of interest.  
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
  
  
The same as the underlying indicator.  
  
  
  
At regional and global levels  
  
  
  
The same as the underlying indicator.  
  
  
  
Regional aggregates:  
  
  
  
The same as the underlying indicator.  
  
  
  
Sources of discrepancies:  
  
  
  
The same as the underlying indicator.  
  
  
  
Data Sources  
  
  
  
Description:  
  
  
  
The sources are the same as for the underlying indicators for this goal.  
  
  
  
Collection process:  
  
  
  
The same as the underlying indicator.  
  
  
  
Data Availability  
  
  
  
Depends on underlying indicator   
  
  
  
Calendar  
  
  
  
Data collection:  
  
  
  
Depends on underlying indicator.   
  
  
  
Data release:  
  
  
  
Depends on underlying indicator.   
  
  
  
Data providers  
  
  
  
The same as the underlying indicator.  
  
  
  
Data compilers  
  
  
  
UNESCO Institute for Statistics  
  
  
  
References  
  
  
  
URL:  
  
  
  
http://www.uis.unesco.org/Pages/default.aspx  
  
  
  
References:  
  
  
  
See references for each underlying indicator.  
  
  
  
Related indicators as of February 2020  
  
  
  
All equity targets and targets associated with the underlying indicators.

Last updated: March 2020  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.3: By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university  
  
Indicator 4.3.1: Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
  
  
UNESCO Institute for Statistics (UNESCO-UIS)  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
  
  
The percentage of youth and adults in a given age range (e.g. 15-24 years, 25-64 years, etc.) participating in formal or non-formal education or training in a given time period (e.g. last 12 months).   
  
  
  
Rationale:  
  
  
  
To show the level of participation of youth and adults in education and training of all types. A high value indicates a large share of the population in the relevant age group is participating in formal and non-formal education and training.  
  
  
  
Concepts:  
  
  
  
Formal education and training is defined as education provided by the system of schools, colleges, universities and other formal educational institutions that normally constitutes a continuous ‘ladder’ of full-time education for children and young people, generally beginning at the age of 5 to 7 and continuing to up to 20 or 25 years old. In some countries, the upper parts of this ‘ladder’ are organized programmes of joint part-time employment and part-time participation in the regular school and university system.  
  
  
  
Non-formal education and training is defined as any organized and sustained learning activities that do not correspond exactly to the above definition of formal education. Non-formal education may therefore take place both within and outside educational institutions and cater to people of all ages. Depending on national contexts, it may cover educational programmes to impart adult literacy, life-skills, work-skills, and general culture.  
  
  
  
Comments and limitations:  
  
  
  
Formal and non-formal education and training can be offered in a variety of settings including schools and universities, workplace environments and others and can have a variety of durations. Administrative data often capture only provision in formal settings such as schools and universities. Participation rates do not capture the intensity or quality of the provision nor the outcomes of the education and training on offer.  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
The number of people in selected age groups participating in formal or non-formal education or training is expressed as a percentage of the population of the same age.  
  
  
  
PRAGi = EAGi  
  
  
  
PAGi  
  
  
  
where:  
  
  
  
PRAGi = participation rate of the population in age group i in formal and non-formal education and training  
  
  
  
EAGi = enrolment of the population in age group i in formal and non-formal education and training  
  
  
  
PAGi = population in age group i  
  
  
  
i = 15-24, 15 and above, 25-64 etc  
  
  
  
Disaggregation:  
  
  
  
By age and sex from administrative sources, and by age, sex, location and income from household surveys.   
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
  
  
None by data compiler.  
  
  
  
At regional and global levels  
  
  
  
None by data compiler.  
  
  
  
Regional aggregates:  
  
  
  
Regional and global aggregates are not currently available for this indicator.  
  
  
  
Sources of discrepancies:  
  
  
  
None.  
  
  
  
Data Sources  
  
  
  
Description:  
  
  
  
Administrative data from schools and other places of education and training or household survey data on participants in formal and non-formal education and training by single year of age; population censuses and surveys for population estimates by single year of age (if using administrative data on enrolment).   
  
  
  
Collection process:  
  
  
  
Data are collected from the respective organizations responsible for each survey.  
  
  
  
Data Availability  
  
  
  
Description:  
  
  
  
99 countries with at least one data point for the period 2010-2018.  
  
  
  
Time series:  
  
  
  
1994-2018 in UIS database; 2000-2018 in SDG global database.  
  
  
  
Calendar  
  
  
  
Data collection:  
  
  
  
Various depending on survey and country.   
  
  
  
Data release:  
  
  
  
Various depending on survey and country.   
  
  
  
Data providers  
  
  
  
Ministries of Education and /or National Statistical Offices.  
  
  
  
Data compilers  
  
  
  
UNESCO Institute for Statistics  
  
  
  
References  
  
  
  
URL:  
  
  
  
http://www.uis.unesco.org/Pages/default.aspx  
  
  
  
References:  
  
  
  
European Adult Education Survey (AES): http://www.eui.eu/Research/Library/ResearchGuides/Economics/Statistics/DataPortal/AES.aspx   
  
  
  
European Continuing Vocational Training Survey: http://ec.europa.eu/eurostat/cache/metadata/en/trng\_cvts\_esms.htm   
  
  
  
European Labour Force Survey: http://ec.europa.eu/eurostat/cache/metadata/en/trng\_lfs\_4w0\_esms.htm  
  
  
  
Related indicators as of February 2020  
  
  
  
1.4, 4.4, 4.5, 5.b, 8.5, 9.2

Last updated: March 2020  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.c: 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 4.c.1: Proportion of teachers with the minimum required qualifications, by education level  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
  
  
UNESCO Institute for Statistics (UNESCO-UIS)  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
  
  
The percentage of teachers by level of education taught (pre-primary, primary, lower secondary and upper secondary education) who have received at least the minimum organized pedagogical teacher training pre-service and in-service required for teaching at the relevant level in a given country  
  
  
  
Rationale:  
  
  
  
Teachers play a key role in ensuring the quality of education provided. Ideally all teachers should receive adequate, appropriate and relevant pedagogical training to teach at the chosen level of education and be academically well-qualified in the subject(s) they are expected to teach. This indicator measures the share of the teaching work force which is pedagogically well-trained.   
  
  
  
A high value indicates that students are being taught by teachers who are pedagogically well-trained to teach.  
  
  
  
Concepts:  
  
  
  
A teacher is trained if they have received at least the minimum organized pedagogical teacher training pre-service and in-service required for teaching at the relevant level in a given country.  
  
  
  
Comments and limitations:  
  
  
  
It is important to note that national minimum training requirements can vary widely from one country to the next. This variability between countries lessens the usefulness of global tracking because the indicator would only show the percent reaching national standards, not whether teachers in different countries have similar levels of training. Further work would be required if a common standard for teacher training is to be applied across countries.  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
The number of teachers in a given level of education who are trained is expressed as a percentage of all teachers in that level of education.  
  
  
  
PTTn = TTn  
  
  
  
Tn  
  
  
  
where:  
  
  
  
PTTn = percentage of trained teachers at level n of education  
  
  
  
TTn = trained teachers at level n of education  
  
  
  
Tn = total teachers at level n of education  
  
  
  
n = 02 (pre-primary), 1 (primary), 2 (lower secondary), 3 (upper secondary) and 23 (secondary)  
  
  
  
Disaggregation:  
  
  
  
By sex, level of education and type of institution (public/private).   
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
  
  
The UIS estimates certain key items of data that may be missing or incomplete in order to have publishable estimates at the country level. Where this is not possible the UIS imputes missing values for use only for calculating regional and global aggregates.  
  
  
  
For the purposes of calculating the percentage of trained teachers, the UIS may make one or more of the following:  
  
  
  
• An adjustment to account for over- or under-reporting, for example:  
  
  
  
o To include teachers in a type of education – such as private education or special education – not reported by the country; and/or   
  
  
  
o To include teachers in a part of the country not reported by the country.  
  
  
  
• An estimate of the number of trained teachers in each level of education if the country only reported data for combined levels (eg total secondary rather than lower and upper secondary separately).  
  
  
  
In all cases estimates are based on evidence from the country itself (eg information from the data provider on the size of the missing component, via correspondence, publications or data on the Ministry’s or National Statistical Office’s Webpage, or via surveys conducted by other organizations) or on data from the country for a previous year. These figures may be published: (i) as observed data if the missing items are found in a national source; (ii) as national estimates if the country is persuaded to produce estimates and submit them in place of missing data; or (iii) as UIS estimates, if the estimates are made by the UIS.  
  
  
  
At regional and global levels  
  
  
  
Regional and global aggregates are derived from both publishable and imputed national data. Publishable data are the data submitted to the UIS by Member States or the result of an explicit estimation made by the Institute based on pre-determined standards. In both cases, these data are sent to Member States for review before they are considered publishable by the UIS.   
  
  
  
When data are not available for all countries, the UIS imputes national data for the sole purpose of calculating regional averages. These imputed data are not published nor otherwise disseminated.   
  
  
  
Where data are available for a country for both an earlier and a more recent year than the missing year, a simple linear interpolation is made. Where data are only available for an earlier year, the most recent value is used as an estimate. Similarly, where data are only available for a more recent year, the last value is used as an estimate.  
  
  
  
Where the relevant data are not available at all for a country, estimates may be based on another variable which is clearly linked to the item being estimated. For example, trained teachers may be based on total teachers.  
  
  
  
Where no data are available for the country in any year that can inform the estimate, the unweighted average for the region in which the country lies is used.  
  
  
  
  
  
Regional aggregates:  
  
  
  
Regional and global aggregates are calculated as weighted averages using the denominator of the indicator as the weight. As described previously, where publishable data are not available for a given country or year, values are imputed for the purpose of calculating the regional and global aggregates.  
  
  
  
Sources of discrepancies:  
  
  
  
Nationally-published figures may differ from the international ones because of differences between national education systems and the International Standard Classification of Education (ISCED); or differences in coverage (i.e. the extent to which different types of education – e.g. private or special education – are included in one rather than the other).  
  
  
  
Data Sources  
  
  
  
Description:  
  
  
  
Administrative data from schools and other organized learning centres.  
  
  
  
Collection process:  
  
  
  
The UNESCO Institute for Statistics produces time series based on teachers’ data reported by Ministries of Education or National Statistical Offices. The data are gathered through the annual Survey of Formal Education. Countries are asked to report data according to the levels of education defined in the International Standard Classification of Education (ISCED) to ensure international comparability of resulting indicators.  
  
  
  
The data received are validated using electronic error detection systems that check for arithmetic errors and inconsistencies and trend analysis for implausible results. Queries are taken up with the country representatives reporting the data so that corrections can be made (of errors) or explanations given (of implausible but correct results). During this process countries are also encouraged to provide estimates for missing or incomplete data items.  
  
  
  
In addition, countries also have an opportunity to see and comment on the main indicators the UIS produces in an annual “country review” of indicators.  
  
  
  
Data Availability  
  
  
  
Description:  
  
  
  
111 countries for pre-primary education, 129 countries with data for primary education, 92 countries for lower secondary education and 78 countries for upper secondary education with at least one data point in the period 2010-2019.  
  
  
  
Time series:  
  
  
  
1998-2019 in UIS database; 2000-2019 in the SDG global database.  
  
  
  
Calendar  
  
  
  
Data collection:  
  
  
  
Annual UIS survey (latest launched in October 2019) and UOE survey (latest launched in June 2019).  
  
  
  
Data release:  
  
  
  
Biannual UIS data release (February and September).  
  
  
  
Data providers  
  
  
  
Ministries of Education and/or National Statistical Offices.  
  
  
  
Data compilers  
  
  
  
UNESCO Institute for Statistics  
  
  
  
References  
  
  
  
URL:  
  
  
  
http://www.uis.unesco.org/Pages/default.aspx  
  
  
  
References:  
  
  
  
The Survey of Formal Education Instruction Manual http://www.uis.unesco.org/UISQuestionnaires/Documents/UIS\_ED\_M\_2016.pdf   
  
  
  
UIS Questionnaire on Students and Teachers (ISCED 0-4) http://www.uis.unesco.org/UISQuestionnaires/Pages/default.aspx.  
  
  
  
Related indicators as of February 2020  
  
  
  
1.2, 1.4, 1.a, 2.1, 2.2, 2.3, 3.7, 3.c, 3.d, 5.1, 5.5, 5.b, 8.6, 8.7, 10.2, 12.8, 13.3, 13.b

Last updated: 20 April 2020  
  
Goal: 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
  
  
Target: 4.7 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: 4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
UNESCO Institute for Statistics (UNESCO-UIS)  
  
UNESCO Education Sector, Division for Peace and Sustainable Development, Section of Education for Sustainable Development (UNESCO-ED/PSD/ESD)  
  
  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
Indicator 4.7.1/12.8.1/13.3.1 measures the extent to which countries mainstream Global Citizenship Education (GCED) and Education for Sustainable Development (ESD) in their education systems. This is an indicator of characteristics of different aspects of education systems: education policies, curricula, teacher training and student assessment as reported by government officials, ideally following consultation with other government ministries, national human rights institutes, the education sector and civil society organizations. It measures what governments intend and not what is implemented in practice in schools and classrooms.   
  
  
  
For each of the four components of the indicator (policies, curricula, teacher education, and student assessment), a number of criteria are measured, which are then combined to give a single score between zero and one for each component. (See methodology section for full details.)  
  
  
  
The indicator and its methodology have been reviewed and endorsed by UNESCO’s Technical Cooperation Group on the Indicators for SDG 4-Education 2030 (TCG), which is responsible for the development and maintenance of the thematic indicator framework for the follow-up and review of SDG 4. The TCG also has an interest in education-related indicators in other SDGs, including global indicators 12.8.1 and 13.3.1. The TCG is composed of 38 regionally representative experts from UNESCO Member States (nominated by the respective geographic groups of UNESCO), as well as international partners, civil society, and the Co-Chair of the Education 2030 Steering Committee. The UNESCO Institute for Statistics acts as the Secretariat.  
  
  
  
Rationale:  
  
In order to achieve SDG targets 4.7, 12.8 and 13.3, it is necessary for governments to ensure that ESD and GCED and their sub-themes are fully integrated in all aspects of their education systems. Students will not achieve the desired learning outcomes if ESD and GCED have not been identified as priorities in education policies or laws, if curricula do not specifically include the themes and sub-themes of ESD and GCED, and if teachers are not trained to teach these topics across the curriculum.   
  
  
  
This indicator aims to give a simple assessment of whether the basic infrastructure exists that would allow countries to deliver quality ESD and GCED to learners, to ensure their populations have adequate information on sustainable development and lifestyles in harmony with nature. Appropriate education policies, curricula, teacher education, and student assessment are key aspects of national commitment and effort to implement GCED and ESD effectively and to provide a conducive learning environment.  
  
  
  
Each component of the indicator is assessed on a scale of zero to one. The closer to one the value, the better mainstreamed are ESD and GCED in that component. By presenting results separately for each component, governments will be able to identify in which areas more efforts may be needed.  
  
  
  
In 1974, UNESCO Member States adopted the Recommendation concerning Education for International Understanding, Co-operation and Peace and Education relating to Human Rights and Fundamental Freedoms, which encapsulates many of the aims of SDG targets 4.7, 12.8 and 13.3. Every four years countries report on the implementation of the Recommendation. This well-established formal mechanism will be the data source for indicator 4.7.1/12.8.1/13.3.1. The seventh quadrennial reporting round is scheduled to take place in 2020.  
  
  
  
Concepts:  
  
Global Citizenship Education (GCED) and Education for Sustainable Development (ESD) nurture respect for all, build a sense of belonging to a common humanity, foster responsibility for a shared planet, and help learners become responsible and active global citizens and proactive contributors to a more peaceful, tolerant, inclusive, secure and sustainable world. They aim to empower learners of all ages to face and resolve local and global challenges and to take informed decisions and actions for environmental integrity, economic viability and a just society for present and future generations, while respecting cultural diversity.  
  
Comments and limitations:  
  
The indicator is based on self-reporting by government officials. However, countries will be asked to provide supporting evidence in the form of documents or links (e.g. education policies or laws, curricula, etc.) to back up their responses. In addition, UNESCO will compare responses with available information from alternative sources and, if appropriate, raise queries with national respondents. At the end of the reporting cycle, country responses and the supporting documents will be made publicly available.  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
Information collected with the questionnaire for monitoring the implementation by UNESCO Member States of the 1974 Recommendation concerning Education for International Understanding, Co-operation and Peace and Education relating to Human Rights and Fundamental Freedoms will be used for the construction of the global indicator. For each of the four components of the indicator (policies, curricula, teacher education, and student assessment), a number of criteria are measured, which are then combined to give a single score between zero and one for each component. Only information for primary and secondary education will be used for calculation of indicator 4.7.1/12.8.1/13.3.1.  
  
  
  
Laws and policies  
  
  
  
The following questions are used to calculate the policies component of the indicator:  
  
  
  
A2: Please indicate which GCED and ESD themes are covered in national or sub-national laws, legislation or legal frameworks on education.   
  
There are eight GCED/ESD themes (cultural diversity and tolerance, gender equality, human rights, peace and non-violence, climate change, environmental sustainability, human survival and well-being, and sustainable consumption and production) and two levels of government (national and sub-national) = 16 responses.  
  
Response categories are no = 0, yes = 1, and unknown, which is treated as zero. Blanks are also treated as zeros.   
  
If more than half of responses are unknown or blank the component score is not calculated.   
  
Note that ‘not applicable’ is used where only one level of government is responsible for education.  
  
  
  
Question score = simple mean of the 0 and 1 scores, excluding not applicables (i.e., if eight of the 16 responses are ‘not applicable’, the sum of the 0 and 1 scores is divided by 8 to get the mean and not by 16).  
  
  
  
A4. Please indicate which GCED and ESD themes are covered in national or sub-national education policies, frameworks or strategic objectives.   
  
There are eight GCED/ESD themes (cultural diversity and tolerance, gender equality, human rights, peace and non-violence, climate change, environmental sustainability, human survival and well-being, and sustainable consumption and production) = 8 responses.   
  
Response categories are no = 0, yes = 1, unknown (treated as zero), and not applicable, which is ignored. Blanks are also treated as zeros.   
  
If more than half of responses excluding not applicables are unknown or blank, the component score is not calculated.  
  
  
  
Question score = simple mean of the 0 and 1 scores.  
  
  
  
A5. Please indicate whether national or sub-national education policies, frameworks or strategic objectives on education provide a mandate to integrate GCED and ESD.   
  
  
  
There are two levels of government (national, sub-national) and five areas of integration (curricula, learning objectives, textbooks, teacher education, and student assessment) = 10 responses.   
  
Response categories are no = 0, yes = 1, unknown (treated as zero), and not applicable, which is ignored. Blanks are also treated as zeros.   
  
If more than half of responses excluding not applicables are unknown or blank, the component score is not calculated.   
  
Note that ‘not applicable’ is used where only one level of government is responsible for education.  
  
  
  
Question score = simple mean of the 0 and 1 scores, excluding not applicables (i.e., if five of the 10 responses are ‘not applicable’, the sum of the 0 and 1 scores is divided by 5 to get the mean and not by 10).  
  
  
  
E1. Based on your responses to questions in the previous section (laws and policies) please indicate to what extent global citizenship education (GCED) and education for sustainable development (ESD) are mainstreamed in education laws and policies in your country.   
  
  
  
There are two levels of government (national, sub-national) = 2 responses.   
  
Response categories are not at all = 0, partially = 1, extensively = 2, unknown (treated as zero), and not applicable, which is ignored. Blanks are also treated as zeros.   
  
If more than half of responses excluding not applicables are unknown or blank, the component score is not calculated.   
  
Note that ‘not applicable’ is used where only one level of government is responsible for education.  
  
  
  
Question score = half the simple mean of the 0, 1 and 2 scores, excluding not applicables (i.e., if one of the two responses is ‘not applicable’, the sum of the 0, 1 and 2 scores is divided by 2 to get half the mean and not by 4). The score is half the mean in order to ensure it lies between 0 and 1 as do the scores for the other three questions in this section.  
  
  
  
Policy component score = simple mean of the scores for questions A2, A4, A5 and E1 (except where the component score should not be calculated because too many responses were unknown or blank).  
  
  
  
Curricula  
  
  
  
The following questions are used to calculate the curricula component of the indicator:  
  
  
  
B2: Please indicate which GCED and ESD themes are taught as part of the curriculum.   
  
  
  
There are eight GCED/ESD themes (cultural diversity and tolerance, gender equality, human rights, peace and non-violence, climate change, environmental sustainability, human survival and well-being, and sustainable consumption and production) = 8responses.  
  
Response categories are no = 0, yes = 1, and unknown, which is treated as zero. Blanks are also treated as zeros.   
  
If more than half of responses are unknown or blank, the component score is not calculated.   
  
Note that responses to ‘other subjects, please specify’ in the question are ignored. If appropriate, during quality assurance answers in this category may be recoded to one of the other 12 subjects.  
  
  
  
Question score = simple mean of the 0 and 1 scores.  
  
  
  
B4. Please indicate the approaches used to teach GCED and ESD in primary and secondary education.   
  
  
  
There are four teaching approaches (GCED/ESD as separate subjects, cross-curricular, integrated, whole school) = 4 responses.   
  
Response categories are no = 0, yes = 1, and unknown, which is treated as zero. Blanks are also treated as zeros.   
  
If more than half of responses are unknown or blank the component score is not calculated.  
  
  
  
Question score = simple mean of the 0 and 1 scores.  
  
  
  
E1. Based on your responses to questions in the previous section (curricula) please indicate to what extent global citizenship education (GCED) and education for sustainable development (ESD) are mainstreamed in curricula in your country.   
  
  
  
There are two levels of government (national, sub-national) = 2 responses.  
  
Response categories are not at all = 0, partially = 1, extensively = 2, unknown (treated as zero), and not applicable, which is ignored. Blanks are also treated as zeros.   
  
If more than half of responses excluding not applicables are unknown or blank, the component score is not calculated.  
  
Note that ‘not applicable’ is used where only one level of government is responsible for education.  
  
  
  
Question score = half the simple mean of the 0, 1 and 2 scores, excluding not applicables (i.e., if one of the two responses is ‘not applicable’, the sum of the 0, 1 and 2 scores is divided by 2 to get half the mean and not by 4). The score is half the mean in order to ensure it lies between 0 and 1, as do the scores for the other three questions in this section.  
  
  
  
Curricula component score = simple mean of the scores for questions B2, B3, B4 and E1 (except where the component score should not be calculated because too many responses were unknown or blank).  
  
  
  
Teacher education  
  
  
  
The following questions are used to calculate the teacher education component of the indicator:  
  
  
  
C2: Please indicate whether teachers, trainers and educators are trained to teach GCED and ESD during initial or pre-service training and/or through continuing professional development.   
  
  
  
There are two types of training (initial/pre-service and continuing professional development) and two types of teachers (of selected subjects in which ESD/GCED are typically taught, and of other subjects) = 4 responses.   
  
Response categories are no = 0, yes = 1, and unknown, which is treated as zero. Blanks are also treated as zeros.   
  
If more than half of responses are unknown or blank, the component score is not calculated.  
  
  
  
Question score = simple mean of the 0 and 1 scores.  
  
  
  
C3. Please indicate on which GCED and ESD themes pre-service or in-service training is available for teachers, trainers and educators.   
  
  
  
There are eight GCED/ESD themes (cultural diversity and tolerance, gender equality, human rights, peace and non-violence, climate change, environmental sustainability, human survival and well-being, and sustainable consumption and production) = 8 responses.  
  
Response categories are no = 0, yes = 1 and unknown, which is treated as zero. Blanks are also treated as zeros.   
  
If more than half of responses are unknown or blank, the component score is not calculated.  
  
  
  
Question score = simple mean of the 0 and 1 scores.  
  
  
  
C4. Please indicate whether teachers, trainers and educators are trained to teach the following dimensions of learning in GCED and ESD.   
  
  
  
There are four learning dimensions (knowledge, skills, values, and attitudes/behaviours) = 4 responses.   
  
Response categories are no = 0, yes = 1, and unknown, which is treated as zero. Blanks are also treated as zeros.   
  
If more than half of responses are unknown or blank, the component score is not calculated.  
  
  
  
Question score = simple mean of the 0 and 1 scores.  
  
  
  
C5. Please indicate whether teachers, trainers and educators are trained to use the following approaches to teach GCED and ESD in primary and secondary education.   
  
  
  
There are four teaching approaches (GCED/ESD as separate subjects, cross-curricular, integrated, whole school) = 4 responses.   
  
Response categories are no = 0, yes = 1 and unknown, which is treated as zero. Blanks are also treated as zeros.   
  
If more than half of responses are unknown or blank, the component score is not calculated.  
  
  
  
Question score = simple mean of the 0 and 1 scores.  
  
  
  
E1. Based on your responses to questions in the previous section (teacher education), please indicate to what extent global citizenship education (GCED) and education for sustainable development (ESD) are mainstreamed in teacher education in your country.   
  
  
  
There are two levels of government (national, sub-national) = 2 responses.   
  
Response categories are not at all = 0, partially = 1, extensively = 2, unknown (treated as zero), and not applicable (which is ignored). Blanks are also treated as zeros.   
  
If more than half of responses excluding not applicables are unknown or blank, the component score is not calculated.  
  
Note that ‘not applicable’ is used where only one level of government is responsible for education.  
  
  
  
Question score = half the simple mean of the 0, 1 and 2 scores, excluding not applicables (i.e., if one of the two responses is ‘not applicable’, the sum of the 0, 1 and 2 scores is divided by 2 to get half the mean and not by 4). The score is half the mean in order to ensure it lies between 0 and 1, as do the scores for the other three questions in this section.  
  
  
  
Teacher education component score = simple mean of the scores for questions C2, C3, C4, C5 and E1 (except where the component score should not be calculated because too many responses were unknown or blank).  
  
  
  
Student assessment  
  
  
  
The following questions are used to calculate the student assessment component of the indicator:  
  
  
  
D2: Please indicate whether the GCED and ESD themes below are generally included in student assessments or examinations.   
  
  
  
There are eight GCED/ESD themes (cultural diversity and tolerance, gender equality, human rights, peace and non-violence, climate change, environmental sustainability, human survival and well-being, and sustainable consumption and production) = 8 responses.   
  
Response categories are no = 0, yes = 1 and unknown, which is treated as zero. Blanks are also treated as zeros.   
  
If more than half of responses are unknown or blank, the component score is not calculated.  
  
  
  
Question score = simple mean of the 0 and 1 scores.  
  
  
  
D3. Please indicate which of the dimensions of learning in GCED and ESD below are generally included in student assessments or examinations.   
  
  
  
There are four learning dimensions (knowledge, skills, values, and attitudes/behaviours) = 4 responses..  
  
Response categories are no = 0, yes = 1 and unknown, which is treated as zero. Blanks are also treated as zeros.   
  
If more than half of responses are unknown or blank, the component score is not calculated.   
  
  
  
Question score = simple mean of the 0 and 1 scores.  
  
  
  
E1. Based on your responses to questions in the previous section (student assessment), please indicate to what extent global citizenship education (GCED) and education for sustainable development (ESD) are mainstreamed in student assessment in your country.   
  
  
  
There are two levels of government (national, sub-national) = 2 responses.   
  
Response categories are not at all = 0, partially = 1, extensively = 2, unknown (treated as zero), and not applicable, which is ignored. Blanks are also treated as zeros.   
  
If more than half of responses excluding not applicables are unknown or blank, the component score is not calculated.   
  
Note that ‘not applicable’ is used where only one level of government is responsible for education.  
  
  
  
Question score = half the simple mean of the 0, 1 and 2 scores, excluding not applicables (i.e., if one of the two responses is ‘not applicable’, the sum of the 0, 1 and 2 scores is divided by 2 to get half the mean and not by 4). The score is half the mean in order to ensure it lies between 0 and 1, as do the scores for the other three questions in this section.  
  
  
  
Student assessment component score = simple mean of the scores for questions D2, D3 and E1 (except where the component score should not be calculated because too many responses were unknown or blank).  
  
  
  
The component scores all lie between zero and one and are presented as a dashboard of four scores. They are not combined to create a single overall score for the indicator. The higher the score, the more GCED and ESD are mainstreamed in the given component. In this way, users can make a simple assessment in which component area more efforts may be needed.   
  
  
  
Disaggregation:  
  
None.  
  
  
  
Treatment of missing values:  
  
  
  
 At country level  
  
A small number of missing values – unknown responses and/or blanks – are treated as zeros in the calculation of the question scores. Where they represent more than 50% of the responses to a single question, the component score is not calculated. In such cases, the component score will be presented as missing when results are disseminated.  
  
  
  
 At regional and global levels  
  
Regional and global values are not calculated.  
  
  
  
Regional aggregates:  
  
Regional aggregates are not calculated.  
  
  
  
Sources of discrepancies:  
  
There should be no difference as the indicator values are calculated from the responses submitted by countries. If any changes are proposed to responses as a result of quality assurance procedures, these will be communicated to and verified with countries.  
  
  
  
Methods and guidance available to countries for the compilation of the data at the national level:  
  
Countries wishing to calculate this indicator for themselves should follow the steps described in the ‘Computation Method’ section above.  
  
The questionnaire for the monitoring of the implementation of the 1974 Recommendation concerning Education for International Understanding, Co-operation and Peace and Education relating to Human Rights and Fundamental Freedoms is approved by the Member States of the Executive Board of UNESCO. The questionnaire contains guidelines for completion and a glossary of key terms. In addition, UNESCO provides direct support to Member States in completing the questionnaire and responds to queries in a quality and timely manner.   
  
  
  
Quality assurance  
  
UNESCO will review country responses for consistency and credibility and, if necessary, queries will be raised with national respondents. To assist with this, from 2020, countries will be asked to provide, in addition to completed questionnaires, supporting evidence of their responses in the form of documents or links (e.g. to education policies, laws, curricula, etc.). These will be made publicly available along with completed questionnaires after results are published. UNESCO will also take into account alternative sources of information, where available. These may include national responses to similar intergovernmental consultation processes, such as the Council of Europe’s consultations on the Charter on Education for Democratic Citizenship and Human Rights Education, the UN Economic Commission for Europe’s consultations on the Strategy for Education for Sustainable Development, or other information on ESD and GCED in countries’ national education systems.   
  
Any proposed changes to response values in the questionnaire as the result of quality assurance procedures will be communicated to and verified with countries by UNESCO. Final results will be shared with countries before publication (i) by UNESCO with the national data providers and (ii) by the UIS with education statistics and SDG indicator focal points as part of its annual SDG indicator verification exercise.   
  
  
  
Data Sources  
  
  
  
Description:  
  
Responses to the quadrennial reporting by UNESCO Member States on the implementation of the 1974 Recommendation concerning Education for International Understanding, Co-operation and Peace and Education relating to Human Rights and Fundamental Freedoms. The next round of reporting is scheduled to take place in 2020. (See methodology section for details of questions asked.)  
  
  
  
Collection process:  
  
Responses are submitted by national governments, typically by officials in Ministries of Education. Respondents are asked to consult widely across other government ministries, with national human rights institutes, the education sector and civil society organizations in compiling their responses. Respondents are also asked to submit supporting evidence in the form of documents or links (e.g. to education policies or laws, curricula, etc.), which will be made publicly available at the end of the reporting cycle.  
  
  
  
Responses will be reviewed by UNESCO for consistency and credibility and, if necessary, queries will be raised with national respondents. Where feasible, reference will be made to national documents and links supplied by respondents and to available alternative sources of information.   
  
  
  
Any proposed changes in response values in the questionnaire as the result of quality assurance procedures will be communicated and verified with countries by UNESCO. Final results will be shared with countries before publication (i) by UNESCO with the national data providers and (ii) by the UIS with education statistics and SDG indicator focal points as part of its annual SDG indicator verification exercise.  
  
  
  
Data Availability  
  
  
  
Description:  
  
During the last consultation on the implementation of the 1974 Recommendation concerning Education for International Understanding, Co-operation and Peace and Education relating to Human Rights and Fundamental Freedoms carried out in 2016, 83 countries provided reports: Central and Southern Asia (6), Eastern and South-Eastern Asia (8), Europe and Northern America (29), Latin America and the Caribbean (14), Northern Africa and Western Asia (10), Oceania (4), and sub-Saharan Africa (12).  
  
  
  
Time series:  
  
The first data will be available for 2020. It may be possible to produce estimates for some countries for 2016 but this work has not yet been carried out.  
  
  
  
Calendar  
  
Data collection:  
  
 Next round in 2020, followed by 2024.  
  
   
  
Data release:  
  
Q2 of 2021 (from 2020 reporting round).  
  
  
  
Data providers  
  
Requests for reports are submitted to Ministers Responsible for Relations with UNESCO who are typically Education Ministers. Reports are usually completed by government officials in Ministries of Education. Countries are requested to consult widely before submitting their reports. To assist with this, requests for reports are also copied to NGOs in official partnership with UNESCO and to OHCHR. Prior to release of the results, national data providers and national statistical offices are invited to review the results and, if appropriate, raise any concerns.  
  
  
  
Data compilers  
  
UNESCO’s Sections for Education for Sustainable Development and Global Citizenship and Peace Education.  
  
  
  
References  
  
URL: To be provided later when links to the 2020 round of reporting are available.   
  
  
  
References: To be provided later when links to the 2020 round of reporting are available.  
  
  
  
  
  
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Last updated: 27 April 2020  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.1: 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 4.1.2: Completion rate (primary education, lower secondary education, upper secondary education)  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
UNESCO Institute for Statistics  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
Percentage of a cohort of children or young people aged 3-5 years above the intended age for the last grade of each level of education who have completed that grade.   
  
  
  
Rationale:  
  
The indicator is explicitly referenced in the text of target 4.1: ‘ensure that all girls and boys complete […] primary and secondary education’. A completion rate at or near 100% indicates that all or most children and adolescents have completed a level of education by the time they are 3 to 5 years older than the official age of entry into the last grade of that level of education. A low completion rate indicates low or delayed entry into a given level of education, high drop-out, high repetition, late completion, or a combination of these factors.  
  
  
  
The completion rate can be used either as a self-standing indicator or in combination with SDG indicator 4.1.1 (proportion of children and young people (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least a minimum proficiency level in (i) reading and (ii) mathematics). Combining the completion rate with indicator 4.1.1 provides information on the percentage of children or young people in a cohort who achieve a minimum level of proficiency, and not only on the percentage of children in school who achieve minimum proficiency.  
  
  
  
Concepts:  
  
The intended age for the last grade of each level of education is the age at which pupils would enter the grade if they had started school at the official primary entrance age, had studied full-time and had progressed without repeating or skipping a grade.   
  
  
  
For example, if the official age of entry into primary education is 6 years, and if primary education has 6 grades, the intended age for the last grade of primary education is 11 years. In this case, 14-16 years (11 + 3 = 14 and 11 + 5 = 16) would be the reference age group for calculation of the primary completion rate.  
  
  
  
Comments and limitations:  
  
The age group 3-5 years above the official age of entry into the last grade for a given level of education was selected for the calculation of the completion rate to allow for some delayed entry or repetition. In countries where entry can occur very late or where repetition is common, some children or adolescents in the age group examined may still attend school and the eventual rate of completion may therefore be underestimated.  
  
  
  
The indicator is calculated from household survey data and is subject to time lag in the availability of data. When multiple surveys are available, they may provide conflicting information due to the possible presence of sampling and non-sampling errors in survey data. The Technical Cooperation Group on the Indicators for SDG 4 - Education 2030 (TCG) has requested a refinement of the methodology to model completion rate estimates, following an approach similar to that used for the estimation of child mortality rates. The model would ensure that common challenges with household survey data, such as timeliness and sampling or non-sampling errors are addressed to provide up-to-date and more robust data.   
  
  
  
Methodology  
  
  
  
Computation Method:  
  
The number of persons in the relevant age group who have completed the last grade of a given level of education is divided by the total population (in the survey sample) of the same age group.  
  
  
  
Formula:  
  
  
  
  
  
  
  
where:  
  
  
  
 completion rate for level n of education  
  
 population aged 3 to 5 years above the official entrance age a into the last grade of level n of education who completed level n  
  
 population aged 3 to 5 years above the official entrance age a into the last grade of level n of education  
  
ISCED level 1 (primary education), 2 (lower secondary education), or 3 (upper secondary education)  
  
  
  
Disaggregation:  
  
The indicator is disaggregated by sex, location, wealth and other dimensions specified in global indicator 4.5.1 (parity index).   
  
  
  
Treatment of missing values:  
  
At country level  
  
The completion rate can be calculated from older cohorts who are outside of the age bracket specified in the definition of the indicator to obtain estimates for different years. Gaps in national time series can also be imputed. using the aforementioned model-based to estimate the completion rate.  
  
  
  
At regional and global levels  
  
See above.  
  
  
  
Regional aggregates:  
  
Global and regional estimates of the primary, lower secondary and upper secondary completion rate are derived by using the national population in the respective age groups as weights for aggregation of national values.  
  
  
  
Sources of discrepancies:  
  
National data are often collected and reported in reference to national systems of education. The mapping from a national classification to the International Standard Classification of Education (ISCED) is not always straightforward and can cause discrepancies between national and international indicator estimates.  
  
  
  
Methods and guidance available to countries for the compilation of the data at the national level:  
  
Countries can calculate the completion rate using the methodology described in this document. ISCED mappings that help countries report their data in an internationally comparable framework are available on the website of the UNESCO Institute for Statistics (http://uis.unesco.org/en/isced-mappings).  
  
  
  
Quality assurance  
  
The process for quality assurance includes review of survey documentation, calculation of measures of reliability, examination of consistency of indicator values derived from different sources and, if necessary, consultation with data providers.  
  
  
  
Before its annual data release and addition to the global SDG Indicators Database, the UNESCO Institute for Statistics submits all indicator values and notes on methodology to National Statistical Offices, Ministries of Education or other relevant agencies in individual countries for their review and feedback.  
  
  
  
Data Sources  
  
  
  
Description:  
  
The data can be obtained from population censuses and household surveys that collect information on the highest level of education completed by children and young people in a household. Typical questions in a survey to collect data on educational attainment are:  
  
  
  
What is the highest level of education [name of household member] has attended?  
  
What is the highest grade of education [name of household member] has completed at that level?  
  
  
  
Sources include publicly available data from Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), European Union Statistics on Income and Living Condition (EU-SILC), the Integrated Public Use Microdata Series (IPUMS), and national household surveys and censuses.  
  
  
  
Collection process:  
  
Data from all publicly available household surveys and censuses with the required information are compiled and used to calculate the completion rate. For international comparability, national data are mapped to the International Standard Classification of Education (ISCED) before indicator calculation.  
  
  
  
Indicator values intended for dissemination and addition to the global SDG Indicators Database are submitted by the UNESCO Institute for Statistics to National Statistical Offices, Ministries of Education or other relevant agencies in individual countries for their review and feedback.  
  
  
  
Data Availability  
  
  
  
Description:  
  
The primary completion rate is currently available for 122 countries, representing 51% of all countries worldwide. The lower secondary completion rate is available for 155 countries, representing 64% of all countries. Coverage for the upper secondary completion rate is similar, with data for 155 countries, representing 64% of all countries. The countries with completion rates are home to more than 90% of the global population.  
  
  
  
Time series:  
  
The completion rate is available for the years since 2000. National time series are incomplete due to the infrequent implementation of household surveys and censuses but could, potentially, be reconstructed using the aforementioned model-based to estimate the completion rate..  
  
  
  
Calendar  
  
  
  
Data collection:  
  
 Household survey and census datasets are publicly available from the sources described above.  
  
   
  
Data release:  
  
Completion rates are released twice per year by the UNESCO Institute for Statistics, around February and September.  
  
  
  
Data providers  
  
 Household survey and census datasets are publicly available from the sources described above.  
  
  
  
Data compilers  
  
UNESCO Institute for Statistics.  
  
  
  
References  
  
UNESCO Institute for Statistics (UIS). 2019. UIS.Stat online database.  
  
Primary completion rate: http://data.uis.unesco.org/index.aspx?queryid=3417  
  
Lower secondary completion rate: http://data.uis.unesco.org/index.aspx?queryid=3420  
  
Upper secondary completion rate: http://data.uis.unesco.org/index.aspx?queryid=3423  
  
  
  
UNESCO Institute for Statistics (UIS) and Global Education Monitoring Report. 2019. World Inequality Database on Education (WIDE).  
  
Primary completion rate: https://www.education-inequalities.org/indicators/comp\_prim\_v2  
  
Lower secondary completion rate: https://www.education-inequalities.org/indicators/comp\_lowsec\_v2  
  
Upper secondary completion rate: https://www.education-inequalities.org/indicators/comp\_upsec\_v2   
  
  
  
Related indicators  
  
Combined with SDG indicator 4.1.1 – proportion of children and young people (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least a minimum proficiency level in (i) reading and (ii) mathematics – the completion rate can provide information on the percentage of children in a given cohort who achieve minimum proficiency in reading and mathematics.  
  
  
  
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Last updated: 09 July 2017  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.b: 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 4.b.1: Volume of official development assistance flows for scholarships by sector and type of study  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
  
  
Organisation for Economic Co-operation and Development (OECD)  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
  
  
Gross disbursements of total ODA from all donors for scholarships.  
  
  
  
Rationale:  
  
  
  
Total ODA flows to developing countries quantify the public effort that donors provide to developing countries for scholarships.  
  
  
  
Concepts:  
  
  
  
ODA: The DAC defines ODA as “those flows to countries and territories on the DAC List of ODA Recipients and to multilateral institutions which are   
  
provided by official agencies, including state and local governments, or by their executive agencies; and   
  
each transaction is administered with the promotion of the economic development and welfare of developing countries as its main objective; and  
  
is concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 per cent). (See http://www.oecd.org/dac/stats/officialdevelopmentassistancedefinitionandcoverage.htm)  
  
  
  
Scholarships: 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. Estimated tuition costs  
  
of students attending schools financed by the donor but not receiving individual grants are not included here, but under item imputed student costs (CRS sector code 1520). Training costs relate to contributions  
  
for trainees from developing countries receiving mainly non-academic, practical or vocational training in the donor country.  
  
  
  
Comments and limitations:  
  
Data in the Creditor Reporting System are available from 1973. However, the data coverage is considered complete from 1995 for commitments at an activity level and 2002 for disbursements.   
  
  
  
Data for scholarships are only available since 2010 when the new typology of aid was introduced in DAC statistics.  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
The sum of ODA flows from all donors to developing countries for scholarships.  
  
  
  
Disaggregation:  
  
  
  
This indicator can be disaggregated by donor, recipient country, type of finance, etc.  
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
  
  
Due to high quality of reporting, no estimates are produced for missing data.  
  
  
  
At regional and global levels  
  
  
  
Not applicable.  
  
  
  
Regional aggregates:  
  
  
  
Global and regional figures are based on the sum of ODA flows for scholarships.  
  
  
  
Sources of discrepancies:  
  
  
  
DAC statistics are standardized on a calendar year basis for all donors and may differ from fiscal year data available in budget documents for some countries.  
  
  
  
Data Sources  
  
  
  
Description:  
  
  
  
The OECD/DAC has been collecting data on official and private resource flows from 1960 at an aggregate level and 1973 at an activity level through the Creditor Reporting System (CRS data are considered complete from 1995 for commitments at an activity level and 2002 for disbursements).   
  
  
  
Data for scholarships are only available since 2010 when the new typology of aid was introduced in DAC statistics.  
  
  
  
The data are reported by donors according to the same standards and methodologies (see here: http://www.oecd.org/dac/stats/methodology.htm).   
  
  
  
Data are reported on an annual calendar year basis by statistical reporters in national administrations (aid agencies, Ministries of Foreign Affairs or Finance, etc.  
  
  
  
Collection process:  
  
  
  
A statistical reporter is responsible for the collection of DAC statistics in each providing country/agency. This reporter is usually located in the national aid agency, Ministry of Foreign Affairs or Finance etc.  
  
  
  
Data Availability  
  
  
  
Description:  
  
  
  
On a recipient basis for all developing countries eligible for ODA.  
  
  
  
Time series:  
  
  
  
Data are available from 2010.  
  
  
  
Calendar  
  
  
  
Data collection:  
  
  
  
Data are published on an annual basis in December for flows in the previous year.  
  
  
  
Detailed 2015 flows was published in December 2016.  
  
  
  
Data providers  
  
  
  
Data are reported on an annual calendar year basis by statistical reporters in national administrations (aid agencies, Ministries of Foreign Affairs or Finance, etc.  
  
  
  
Data compilers  
  
  
  
OECD  
  
  
  
References  
  
  
  
URL:  
  
  
  
www.oecd.org/dac/stats  
  
  
  
References:  
  
  
  
See all links here: http://www.oecd.org/dac/stats/methodology.htm  
  
  
  
Related indicators as of February 2020  
  
  
  
Other ODA indicators.

Last updated: October 2018  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.1: 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 4.1.1: 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  
  
  
  
This metadata covers part (a) of indicator 4.1.1: proportion of children and young people in grades 2/3 achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
UNESCO Institute of Statistics (UIS)  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
Proportion of children and young people in grades 2/3 achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex.  
  
  
  
Rationale:  
  
The higher the figure the higher the proportion of children and/or young people reaching at least minimum proficiency in the respective domain (reading or mathematic) with the limitations indicated under the “Comments and limitations” section.  
  
  
  
Concepts:  
  
Minimum proficiency level is the benchmark of basic knowledge in a domain (mathematics, reading, etc.) measured through learning assessments. Until August 2018, there was no globally agreed definition on minimum proficiency level. As an interim reporting strategy, the UIS has been reporting according to the minimum proficiency level defined by each assessment.  
  
  
  
Minimum proficiency levels defined by each learning assessment  
  
The table below shows the minimum proficiency levels for each learning assessment by target grade/age and domain. Due to heterogeneity of performance levels set by national and cross-national assessments, these performance levels will be mapped to the globally-defined minimum performance levels and policy descriptors, agreed upon in September 2018 (see 4.1.1. UIS request for reclassification 2018.09.28.docx) that will allow pedagogical linking. Once the performance levels are mapped, the global education community will be able to identify for each country the proportion or percentage of children who achieved at least minimum proficiency levels.  
  
  
  
Table 1. Minimum proficiency levels defined by each learning assessment  
  
Name  
  
Target grade/age  
  
Domain  
  
Minimum Proficiency Level (MPL)  
  
LLECE  
  
Grade 3  
  
Reading  
  
Level 2  
  
  
  
  
  
Math  
  
Level 2  
  
PASEC  
  
Grade 2  
  
Reading  
  
Level 3  
  
  
  
  
  
Math  
  
Level 2  
  
TIMSS  
  
Grade 4  
  
Math  
  
Low International Benchmark  
  
PIRLS  
  
Grade 4  
  
Reading  
  
Low International Benchmark  
  
MICS6  
  
Grade 2/3  
  
Reading  
  
Foundational reading skills  
  
  
  
  
  
Math  
  
Foundational numeracy skills  
  
EGRA  
  
Grade 2/3  
  
Reading  
  
Number of correct words per minute (cwpm) above a given threshold (typically 45 cwpm) defined by each country  
  
EGMA  
  
Grade 2/3  
  
Math  
  
Percentage of correct answers for addition and subtraction above a given threshold (typically 80% of correct answers) defined by each country  
  
PAL Network  
  
Grade 3  
  
Reading  
  
Can read one or more texts as defined by each country  
  
  
  
  
  
Math  
  
Can do one or more arithmetic problems as defined by each country  
  
National assessment  
  
Grade 2/3, end of primary or end of secondary  
  
Reading  
  
As defined by each national assessment  
  
  
  
  
  
Math  
  
As defined by each national assessment  
  
  
  
  
  
  
  
Comments and limitations:  
  
Learning outcomes from national school- or household-based learning assessments are not automatically comparable across countries unless they are linked by design. Learning outcomes from cross-national learning assessment are automatically comparable for countries which participated in the same cross-national learning assessments, but they are not comparable across different cross-national learning assessments without further analytical effort.  
  
  
  
Comparability over time is possible if the assessment is designed with an adequate linking process between waves of administration. This is described in the note “4.1.1. UIS request for reclassification 20181001.docx.”   
  
  
  
Methodology  
  
  
  
Computation Method:  
  
The number of children and/or young people at the relevant stage of education n in year t achieving at least the pre-defined proficiency level in subject s expressed as a percentage of the number of children and/or young people at stage of education n, in year t, in any proficiency level in subject s.  
  
  
  
MPLt,n,s, = MPt,n,s / Pt,n  
  
where:   
  
MPt,n,s = the number of children and young people at stage of education n, in year t, who have achieved at least the minimum proficiency level in subject s.   
  
Pt,n = the number of children and young people at stage of education n, in year t, in any proficiency level in subject s.  
  
n = the stage of education that was assessed  
  
s = the subject that was assessed (reading or mathematics).  
  
Disaggregation:  
  
Indicator 4.1.1.a must be disaggregated by domain (reading and mathematics) and sex.  
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
Missing values are not imputed.  
  
  
  
At regional and global levels  
  
Missing values are not imputed.  
  
  
  
Regional aggregates:  
  
Not yet applicable. Data are reported at the national level only.  
  
  
  
Sources of discrepancies:  
  
Not yet applicable. Data are reported at the national level only.  
  
  
  
Methods and guidance available to countries for the compilation of the data at the national level:  
  
Information not available.  
  
  
  
Quality assurance  
  
Information not available.  
  
  
  
  
  
Data Sources  
  
  
  
Description:  
  
Type of data sources: In school and population-based learning assessments.  
  
  
  
Table 2. How interim reporting is structured?  
  
   
  
In-school based  
  
Household Based Surveys  
  
Grade  
  
  
  
Cross-national  
  
National   
  
  
  
  
  
2/3 Grade  
  
LLECE  
  
Yes  
  
MICS6  
  
2/3 plus one year when primary lasts more than 4 years according to ISCED level of the country  
  
  
  
PASEC  
  
  
  
   
  
  
  
  
  
TIMSS   
  
  
  
PAL network  
  
  
  
  
  
PIRLS   
  
  
  
   
  
  
  
  
  
EGRA/EGMA  
  
  
  
   
  
  
  
Definition of minimum level until 2018 release  
  
The ones defined by each assessment by point of measurement and domain   
  
Definition of minimum level from 2019   
  
According to alignment as adopted by GAML and TCG in September of 2018  
  
Validation   
  
Sent from UIS for countries’ approval  
  
  
  
Notes: TIMSS/PIRLS Grade 4: these results are allocated to the end of primary when, according to the ISCED levels in a given country, there are 4 grades in primary. When primary has more than 4 grades, they are allocated to grade 2/3. (Source: UIS)  
  
  
  
Collection process:  
  
Information not available.  
  
  
  
Data Availability  
  
  
  
Description:  
  
Figure 1. Availability of data for indicator 4.1.1 (a), by grade  
  
  
  
  
  
Regions  
  
Number of countries  
  
  
  
with available data  
  
Africa (Northern)  
  
4  
  
Africa (Sub-Saharan)   
  
19  
  
Asia (Central and Southern)  
  
3  
  
Asia (Eastern and South-eastern)  
  
12  
  
Asia (Western)  
  
11  
  
Europe  
  
21  
  
Latin America and the Caribbean  
  
25  
  
Northern America   
  
2  
  
Oceania  
  
3  
  
World  
  
100  
  
  
  
  
  
  
  
Figure 2. Population coverage in countries where data for the indicator are available  
  
  
  
Note: In terms of population, countries for which results for the SDG 4.1.1 (a) are available for grades 2, 3, or 4 represent the 76% of the school age population at primary education. If only learning assessments for grades 2 and 3 are considered, that coverage is 39%.  
  
  
  
Time series:  
  
Data available since 2000. The indicator will be reported annually.  
  
  
  
Calendar  
  
  
  
Data collection:  
  
 Data collection is ongoing.  
  
   
  
Data release:  
  
September 2018; February 2019  
  
  
  
Data providers  
  
School Based  
  
International Large Scale Assessments are reported to the UIS by cross-national organisations (LLECE, PASEC, TIMSS, and PIRLS). Typically, Cross National Large Scale Assessment, either regional or international, define various performance levels, and report as well the mean and standard deviation. They choose as well one level as the cut-off point that defines what children/youth are below or above level.  
  
National Large-Scale Assessments either sample- or census- based. Countries should report the proportion of students by level of competency for each domain indicating as well the minimum proficiency level, when it is defined by the national assessment. EGRA and EGMA as reported by USAID or individual countries.   
  
  
  
Household Survey- Based  
  
MICS6: reported to the UIS by UNICEF  
  
Pal network: reported to the UIS by Pal network  
  
  
  
Data compilers  
  
UNESCO Institute of Statistics (UIS)  
  
  
  
References  
  
UIS (2018). Quick Guide to Education Indicators for SDG 4.  
  
http://uis.unesco.org/sites/default/files/documents/quick-guide-education-indicators-sdg4-2018-en.pdf  
  
  
  
UIS (2017). Proposal of a Protocol for reporting Indicator 4.1.1.  
  
http://uis.unesco.org/sites/default/files/documents/gaml4-sdg4-reporting-proposal-protocol-reporting-indicator4.1.1.pdf  
  
  
  
UIS (2018). Request for reclassification of SDG indicator 4.1.1.a.  
  
  
  
Related indicators as of February 2020  
  
The parity indices for this indicator are reported in SDG indicator 4.5.1.

Last updated: March 2020  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.6: By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy  
  
Indicator 4.6.1: Proportion 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  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
  
  
UNESCO Institute for Statistics (UNESCO-UIS)  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
  
  
The proportion of youth (aged 15-24 years) and of adults (aged 15 years and above) have achieved or exceeded a given level of proficiency in (a) literacy and (b) numeracy. The minimum proficiency level will be measured relative to new common literacy and numeracy scales currently in development.  
  
  
  
Rationale:  
  
  
  
The indicator is a direct measure of the skill levels of youth and adults in the two areas: literacy and numeracy. There is only one threshold that divides youth and adults into above and below minimum level:   
  
  
  
(a) Below minimum level is the proportion of youth and adults who do not achieve the minimum standard as set-up by countries according to the globally defined minimum competencies.   
  
  
  
(b) Above minimum level is the proportion of youth and adults who have achieved the minimum standard. Due to heterogeneity of performance levels set by national and cross-national assessments, these performance levels will have to be mapped to the globally defined basic and proficiency levels. Once the performance levels are mapped, the global education community will be able to identify for each country the proportion of youth and adults above and below minimum level.  
  
  
  
Concepts:  
  
  
  
The fixed level of proficiency is the benchmark of basic knowledge in a domain (literacy or numeracy) measured through learning assessments. Currently, there are no common standards validated by the international community or countries. The indicator shows data published by each of the agencies and organizations specialised in cross-national learning assessments.  
  
  
  
Comments and limitations:  
  
  
  
The measurement of youth and adult skills requires some form of direct assessment. Using household surveys to measure learning can be costly and difficult to administer and may underestimate learning in areas that are critical to daily life but are harder to assess in standardized approaches. The result may be inaccurate representations of what youth and adults know and can do, especially in relation to applying skills that may vary across contexts.  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
Proportion of youth and adults who have achieved above the minimum threshold of proficiency as defined for large-scale (sample representative) adult literacy assessment:  
  
  
  
Performance achieve above minimum level, PLta,s,above minimum = p.   
  
  
  
where p is the proportion of youth and adults at a national or cross-national adult literacy assessment at age group a, in learning domain s in any year (t-i) where 0 ? i ? 5, who has achieved above the minimum level of proficiency.  
  
  
  
Disaggregation:  
  
  
  
By age-group, sex, location, income and type of skill. Disability status is not currently available in most national and cross-national learning assessments.  
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
  
  
None by data compiler.  
  
  
  
At regional and global levels  
  
  
  
None by data compiler.   
  
  
  
Regional aggregates:  
  
  
  
Regional and global aggregates are not currently available for this indicator.  
  
  
  
Sources of discrepancies:  
  
  
  
None.  
  
  
  
Data Sources  
  
  
  
Description:  
  
  
  
This indicator is collected via skills' assessment surveys of the adult population (e.g., PIAAC, STEP, LAMP, RAMAA) and national adult literacy surveys.  
  
  
  
Collection process:  
  
  
  
Data are collected from the respective organizations responsible for each assessment.  
  
  
  
Data Availability  
  
  
  
Description:  
  
  
  
45 countries with at least one data point for the period 2010-2017.  
  
  
  
Time series:  
  
  
  
2006 onwards.   
  
  
  
Calendar  
  
  
  
Data collection:  
  
  
  
Various depending on survey and country.   
  
  
  
Data release:  
  
  
  
Various depending on survey and country.  
  
  
  
Data providers  
  
  
  
  
  
Bodies responsible for conducting learning assessments (including Ministries of Education, National Statistical Offices and other data providers).  
  
  
  
Data compilers  
  
  
  
UNESCO Institute for Statistics  
  
  
  
References  
  
  
  
URL:  
  
  
  
http://www.uis.unesco.org/Pages/default.aspx  
  
  
  
References:  
  
  
  
Programme for the International Assessment of Adult Competencies (PIAAC):   
  
  
  
http://www.oecd.org/site/piaac/   
  
  
  
STEP Skills Measurement Programme: http://microdata.worldbank.org/index.php/catalog/step/about   
  
  
  
Action Research: Measuring Literacy Programme Participants’ Learning Outcomes (RAMAA):   
  
  
  
https://uil.unesco.org/literacy-and-basic-skills/assessment-and-monitoring-ramaa  
  
  
  
Related indicators as of February 2020  
  
  
  
1.2, 1.5, 2.1, 2.2, 2.3, 3.1, 3.3, 3.4, 3.7, 4.5, 5.3, 5.4, 5.5, 5.6, 8.5, 8.6, 8.b, 10.2, 12.8, 13.3, 13.b

Last updated: March 2020  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.2: 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 4.2.2: Participation rate in organized learning (one year before the official primary entry age), by sex  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
  
  
UNESCO Institute for Statistics (UNESCO-UIS)  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
  
  
The participation rate in organized learning (one year before the official primary entry age), by sex as defined as the percentage of children in the given age range who participate in one or more organized learning programme, including programmes which offer a combination of education and care. Participation in early childhood and in primary education are both included. The age range will vary by country depending on the official age for entry to primary education.  
  
  
  
Rationale:  
  
  
  
The indicator measures children’s exposure to organized learning activities in the year prior to the start of primary school. A high value of the indicator shows a high degree of participation in organized learning immediately before the official entrance age to primary education.  
  
  
  
Concepts:  
  
  
  
An organized learning programme is one which consists of a coherent set or sequence of educational activities designed with the intention of achieving pre-determined learning outcomes or the accomplishment of a specific set of educational tasks. Early childhood and primary education programmes are examples of organized learning programmes.   
  
  
  
Early childhood and primary education are defined in the 2011 revision of the International Standard Classification of Education (ISCED 2011). Early childhood education is typically designed with a holistic approach to support children’s early cognitive, physical, social and emotional development and to introduce young children to organized instruction outside the family context. Primary education offers learning and educational activities designed to provide students with fundamental skills in reading, writing and mathematics and establish a solid foundation for learning and understanding core areas of knowledge and personal development. It focuses on learning at a basic level of complexity with little, if any, specialisation.   
  
  
  
The official primary entry age is the age at which children are obliged to start primary education according to national legislation or policies. Where more than one age is specified, for example, in different parts of a country, the most common official entry age (i.e. the age at which most children in the country are expected to start primary) is used for the calculation of this indicator at the global level.  
  
  
  
Comments and limitations:  
  
  
  
Participation in learning programmes in the early years is not full time for many children, meaning that exposure to learning environments outside of the home will vary in intensity. The indicator measures the percentage of children who are exposed to organized learning but not the intensity of the programme, which limits the ability to draw conclusions on the extent to which this target is being achieved. More work is needed to ensure that the definition of learning programmes is consistent across various surveys and defined in a manner that is easily understood by survey respondents, ideally with complementary information collected on the amount of time children spend in learning programmes.  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
The number of children in the relevant age group who participate in an organized learning programme is expressed as a percentage of the total population in the same age range. The indicator can be calculated both from administrative data and from household surveys. If the former, the number of enrolments in organized learning programmes are reported by schools and the population in the age group one year below the official primary entry age is derived from population estimates. For the calculation of this indicator at the global level, population estimates from the UN Population Division are used. If derived from household surveys, both enrolments and population are collected at the same time.  
  
  
  
PROL0t1,AG(a-1) = E0t1,AG(a-1)  
  
  
  
SAPAG(a-1)  
  
  
  
where:  
  
  
  
PROL0t1,AG(a-1) = participation rate in organized learning one year before the official entry age a to primary education  
  
  
  
E0t1,AG(a-1) = enrolment in early childhood or primary education (ISCED levels 0 and 1) aged one year below the official entry age a to primary education  
  
  
  
SAPAG(a-1) = school-age population aged one year below the official entry age a to primary education  
  
  
  
Disaggregation:  
  
  
  
By age and sex from administrative sources, and by age, sex, location and income from household surveys.   
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
  
  
The UIS estimates certain key items of data that may be missing or incomplete in order to have publishable estimates at the country level. Where this is not possible the UIS imputes missing values for use only for calculating regional and global aggregates.  
  
  
  
For the purposes of calculating participation rates by age, the UIS may make one or more of the following:  
  
  
  
• An adjustment to account for over- or under-reporting, for example:  
  
  
  
o To include enrolments in a type of education – such as private education or special education – not reported by the country; and/or   
  
  
  
o To include enrolments in a part of the country not reported by the country.  
  
  
  
• An estimate of the number of enrolments in the given age group if the age distribution was not reported by the country  
  
  
  
• A redistribution of enrolments of unknown age (across known ages)  
  
  
  
• An estimate of the population in the official age group for small countries (if neither the UN Population Division nor the country itself can provide estimates of their own).  
  
  
  
In all cases estimates are based on evidence from the country itself (eg information from the data provider on the size of the missing component, via correspondence, publications or data on the Ministry’s or National Statistical Office’s Webpage, or via surveys conducted by other organizations) or on data from the country for a previous year. These figures may be published: (i) as observed data if the missing items are found in a national source; (ii) as national estimates if the country is persuaded to produce estimates and submit them in place of missing data; or (iii) as UIS estimates, if the estimates are made by the UIS.  
  
  
  
The age distribution of enrolments is most commonly estimated from the age distribution reported in a previous year. If the country has never reported the age distribution of enrolments, the age distribution reported in another survey, if available, is used (such as Multiple Indicator Cluster Surveys (MICS) or Demographic Health Surveys (DHS)).  
  
  
  
Enrolments of unknown age are redistributed across known ages if they constitute more than 5% of the total enrolments in that level of education. No estimation is made if they are 5% or less.  
  
  
  
Population estimates by age for countries with small population – produced only where there are no other suitable estimates available either from UNPD or from the country itself – are made only for countries which have reported education data to the UIS and for which population estimates from a reliable source are available in some years.  
  
  
  
At regional and global levels  
  
  
  
Regional and global aggregates are derived from both publishable and imputed national data. Publishable data are the data submitted to the UIS by Member States or the result of an explicit estimation made by the Institute based on pre-determined standards. In both cases, these data are sent to Member States for review before they are considered publishable by the UIS.   
  
  
  
When data are not available for all countries, the UIS imputes national data for the sole purpose of calculating regional averages. These imputed data are not published nor otherwise disseminated.   
  
  
  
Where data are available for a country for both an earlier and a more recent year than the missing year, a simple linear interpolation is made. Where data are only available for an earlier year, the most recent value is used as an estimate. Similarly, where data are only available for a more recent year, the last value is used as an estimate.  
  
  
  
Where the relevant data are not available at all for a country, estimates may be based on another variable which is clearly linked to the item being estimated. For example, enrolments by age may be based on total enrolments.  
  
  
  
Where no data are available for the country in any year that can inform the estimate, the unweighted average for the region in which the country lies is used.  
  
  
  
Regional aggregates:  
  
  
  
Regional and global aggregates are calculated as weighted averages using the denominator of the indicator as the weight. As described previously, where publishable data are not available for a given country or year, values are imputed for the purpose of calculating the regional and global aggregates.  
  
  
  
Sources of discrepancies:  
  
  
  
Nationally-published figures may differ from the international ones because of differences between national education systems and the International Standard Classification of Education (ISCED); or differences in coverage (i.e. the extent to which different types of education – e.g. private or special education – are included in one rather than the other) and/or between national and the United Nations Population Division (UNPD) population estimates.  
  
  
  
Data Sources  
  
  
  
Description:  
  
  
  
Administrative data from schools and other centres of organized learning or from household surveys on enrolment by single year of age in early learning programmes; population censuses and surveys for population estimates by single year of age (if using administrative data on enrolment); administrative data from ministries of education on the official entrance age to primary education.  
  
  
  
Collection process:  
  
  
  
The UNESCO Institute for Statistics produces time series based on enrolment data reported by Ministries of Education or National Statistical Offices and population estimates produced by the UN Population Division. The enrolment data are gathered through the annual Survey of Formal Education. Countries are asked to report data according to the levels of education defined in the International Standard Classification of Education (ISCED) to ensure international comparability of resulting indicators.  
  
  
  
The data received are validated using electronic error detection systems that check for arithmetic errors and inconsistencies and trend analysis for implausible results. Queries are taken up with the country representatives reporting the data so that corrections can be made (of errors) or explanations given (of implausible but correct results). During this process countries are also encouraged to provide estimates for missing or incomplete data items.  
  
  
  
In addition, countries also have an opportunity to see and comment on the main indicators the UIS produces in an annual “country review” of indicators.  
  
  
  
Data Availability  
  
  
  
Description:  
  
  
  
167 countries with at least one data point in the period 2010-2019.  
  
  
  
Time series:  
  
  
  
1998-2019 in UIS database; 2000-2019 in SDG global database.   
  
  
  
Calendar  
  
  
  
Data collection:  
  
  
  
Annual UIS survey (latest launched in October 2019) and UOE survey (latest launched in June 2019).  
  
  
  
Data release:  
  
  
  
Biannual UIS data release (February and September).  
  
  
  
Data providers  
  
  
  
Ministries of Education and/or National Statistical Offices.  
  
  
  
Data compilers  
  
  
  
UNESCO Institute for Statistics  
  
  
  
References  
  
  
  
URL:  
  
  
  
http://www.uis.unesco.org/Pages/default.aspx  
  
  
  
References:  
  
  
  
The Survey of Formal Education Instruction Manual http://www.uis.unesco.org/UISQuestionnaires/Documents/UIS\_ED\_M\_2016.pdf and   
  
  
  
UIS Questionnaire on Students and Teachers (ISCED 0-4) http://www.uis.unesco.org/UISQuestionnaires/Pages/default.aspx.  
  
  
  
Related indicators as of February 2020  
  
  
  
1.4, 4.5

Last updated: March 2020  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.a: Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all  
  
Indicator 4.a.1: Proportion of schools offering basic services, by type of service  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
  
  
UNESCO Institute for Statistics (UNESCO-UIS)  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
  
  
The percentage of schools by level of education (primary education) with access to the given facility or service.  
  
  
  
Rationale:  
  
  
  
The indicator measures access in schools to key basic services and facilities necessary to ensure a safe and effective learning environment for all students.  
  
  
  
A high value indicates that schools have good access to the relevant services and facilities. Ideally each school should have access to all these services and facilities.  
  
  
  
Concepts:  
  
  
  
Electricity: Regularly and readily available sources of power (e.g. grid/mains connection, wind, water, solar and fuel-powered generator, etc.) that enable the adequate and sustainable use of ICT infrastructure for educational purposes.  
  
  
  
Internet for pedagogical purposes: Internet that is available for enhancing teaching and learning and is accessible by pupils. Internet is defined as a worldwide interconnected computer network, which provides pupils access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (i.e. not assumed to be only via a computer) and thus can also be accessed by mobile telephone, tablet, PDA, games machine, digital TV etc.). Access can be via a fixed narrowband, fixed broadband, or via mobile network.  
  
  
  
Computers for pedagogical use: Use of computers to support course delivery or independent teaching and learning needs. This may include activities using computers or the Internet to meet information needs for research purposes; develop presentations; perform hands-on exercises and experiments; share information; and participate in online discussion forums for educational purposes. A computer is a programmable electronic device that can store, retrieve and process data, as well as share information in a highly-structured manner. It performs high-speed mathematical or logical operations according to a set of instructions or algorithms. Computers include the following types:  
  
  
  
- A desktop computer usually remains fixed in one place; normally the user is placed in front of it, behind the keyboard;  
  
  
  
- A laptop computer is small enough to carry and usually enables the same tasks as a desktop computer; it includes notebooks and netbooks but does not include tablets and similar handheld devices; and  
  
  
  
- A tablet (or similar handheld computer) is a computer that is integrated into a flat touch screen, operated by touching the screen rather than using a physical keyboard.  
  
  
  
Adapted infrastructure is defined as any built environment related to education facilities that are accessible to all users, including those with different types of disability, to be able to gain access to use and exit from them. Accessibility includes ease of independent approach, entry, evacuation and/or use of a building and its services and facilities (such as water and sanitation), by all of the building's potential users with an assurance of individual health, safety and welfare during the course of those activities .   
  
  
  
Adapted materials include learning materials and assistive products that enable students and teachers with disabilities/functioning limitations to access learning and to participate fully in the school environment.   
  
  
  
Accessible learning materials include textbooks, instructional materials, assessments and other materials that are available and provided in appropriate formats such as audio, braille, sign language and simplified formats that can be used by students and teachers with disabilities/functioning limitations.   
  
  
  
Basic drinking water is defined as a functional drinking water source (MDG ‘improved’ categories) on or near the premises and water points accessible to all users during school hours.   
  
  
  
Basic sanitation facilities are defined as functional sanitation facilities (MDG ‘improved’ categories) separated for males and females on or near the premises.   
  
  
  
Basic handwashing facilities are defined as functional handwashing facilities, with soap and water available to all girls and boys.  
  
  
  
Comments and limitations:  
  
  
  
The indicator measures the existence in schools of the given service or facility but not its quality or operational state.  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
The number of schools in a given level of education with access to the relevant facilities is expressed as a percentage of all schools at that level of education.  
  
  
  
PSn,f = Sn,f  
  
  
  
Sn  
  
  
  
where:  
  
  
  
PSn,f = percentage of schools at level n of education with access to facility f  
  
  
  
Sn,f = schools at level n of education with access to facility f  
  
  
  
Sn = total number of schools at level n of education  
  
  
  
Disaggregation:  
  
  
  
By level of education.  
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
  
  
The UIS estimates certain key items of data that may be missing or incomplete in order to have publishable estimates at the country level. Where this is not possible the UIS imputes missing values for use only for calculating regional and global aggregates.   
  
  
  
In all cases estimates are based on evidence from the country itself (eg information from the data provider on the size of the missing component, via correspondence, publications or data on the Ministry’s or National Statistical Office’s Webpage, or via surveys conducted by other organizations) or on data from the country for a previous year.  
  
Where data are available for a country for both an earlier and a more recent year than the missing year, a simple linear interpolation is made. Where data are only available for an earlier year, the most recent value is used as an estimate. Similarly, where data are only available for a more recent year, the last value is used as an estimate.  
  
Where the relevant data are not available at all for a country, estimates may be based on another variable which is clearly linked to the item being estimated. For example, schools with access to basic services or facilities may be estimated from the total number of schools.  
  
  
  
Where no data are available for the country in any year that can inform the estimate, the unweighted average for the region in which the country lies is used.  
  
  
  
Currently no estimates are made for this indicator for the purpose of having publishable country-level data.  
  
  
  
At regional and global levels  
  
  
  
Regional and global aggregates are derived from both publishable and imputed national data. Publishable data are the data submitted to the UIS by Member States or the result of an explicit estimation made by the Institute based on pre-determined standards. In both cases, these data are sent to Member States for review before they are considered publishable by the UIS.   
  
  
  
When data are not available for all countries, the UIS imputes national data for the sole purpose of calculating regional averages. These imputed data are not published nor otherwise disseminated.   
  
  
  
The regional and global aggregates are then calculated as weighted averages using the denominator of the indicator as the weight.  
  
  
  
Regional aggregates:  
  
  
  
Regional and global aggregates are calculated as weighted averages using the denominator of the indicator as the weight. As described previously, where publishable data are not available for a given country or year, values are imputed for the purpose of calculating the regional and global aggregates.  
  
  
  
Sources of discrepancies:  
  
  
  
Nationally-published figures may differ from the international ones because of differences between national education systems and the International Standard Classification of Education (ISCED); or differences in coverage (i.e. the extent to which different types of education – e.g. private or special education – are included in one rather than the other).  
  
  
  
Data Sources  
  
  
  
Description:  
  
  
  
Administrative data from schools and other providers of education or training.  
  
  
  
Collection process:  
  
  
  
The UNESCO Institute for Statistics produces time series based on data reported by Ministries of Education or National Statistical Offices. The data are gathered through the annual Survey of Formal Education (on access to electricity, drinking water, sanitation and handwashing facilities) and through the Survey on ICTs in Education (on access to electricity, Internet and computers). Data on adapted infrastructure are not collected currently. Countries are asked to report data according to the levels of education defined in the International Standard Classification of Education (ISCED) to ensure international comparability of resulting indicators.  
  
  
  
The data received are validated using electronic error detection systems that check for arithmetic errors and inconsistencies and trend analysis for implausible results. Queries are taken up with the country representatives reporting the data so that corrections can be made (of errors) or explanations given (of implausible but correct results). During this process countries are also encouraged to provide estimates for missing or incomplete data items.  
  
  
  
In addition, countries also have an opportunity to see and comment on the main indicators the UIS produces in an annual “country review” of indicators.  
  
  
  
Data Availability  
  
  
  
Description:  
  
  
  
140 countries for electricity, 113 countrie1 for computers, 106 countries for Internet, 109 countries for water, 103 countries for sanitation, 105 countries for hand-washing facilities and 50 countries for adapted infrastructure that have at least one data point in the period 2010-2019.  
  
  
  
Time series:  
  
  
  
2000-2019   
  
  
  
Calendar  
  
  
  
Data collection:  
  
  
  
Annual UIS survey (latest launched in October 2019) and UOE survey (latest launched in June 2019).  
  
  
  
Data release:  
  
  
  
Biannual UIS data release (February and September).  
  
  
  
Data providers  
  
  
  
Ministries of Education and/or National Statistical Offices.  
  
  
  
Data compilers  
  
  
  
Name:  
  
  
  
UNESCO Institute for Statistics  
  
  
  
References  
  
  
  
URL:  
  
  
  
http://www.uis.unesco.org/Pages/default.aspx  
  
  
  
References:  
  
  
  
The proportion of schools with access to electricity, the Internet for pedagogical purposes and computers for pedagogical purposes: see Guide to Measuring Information and Communication Technologies (ICT) in Education, UIS Technical Paper No. 2.  
  
  
  
WASH Monitoring Indicators: http://www.unicef.org/wash/files/4\_WSSCC\_JMP\_Fact\_Sheets\_4\_UK\_LoRes.pdf   
  
  
  
UIS Questionnaires on Statistics of Information and Communication Technologies (ICT) in Education and the Regional Module for Africa: http://www.uis.unesco.org/UISQuestionnaires/Pages/default.aspx.  
  
  
  
Related indicators as of February 2020  
  
  
  
6.1, 6.2, 7.1, 9.c, 17.8

Last updated: June 2020  
  
Last updated: June 2020  
  
  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.4: 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 4.4.1: Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill  
  
  
  
  
  
  
  
Institutional information  
  
  
  
  
  
Organization(s):  
  
  
  
  
  
International Telecommunication Union (ITU)  
  
  
  
  
  
Concepts and definitions  
  
  
  
  
  
Definition:  
  
  
  
  
  
The proportion of youth and adults with information and communications technology (ICT) skills, by type of skill as defined as the percentage of individuals that have undertaken certain -ICT-related activities in the last 3 months. The indicator is expressed as a percentage.  
  
  
  
Rationale:  
  
  
  
  
  
ICT skills determine the effective use of information and communication technology, so this indicator may therefore assist in making the link between ICT usage and impact. The lack of such skills continues to be one of the key barriers keeping people from fully benefitting from the potential of information and communication technologies. These data may be used to inform targeted policies to improve ICT skills, and thus contribute to an inclusive information society.  
  
  
  
This is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (in 2014).  
  
  
  
Concepts:  
  
  
  
  
  
The indicator on the proportion of individuals with ICT skills, by type of skills refers to individuals that have undertaken certain computer-related activities in the last three months. (Please note however, that from 2020 this data will be collected with a different scope and response categories, as explained below.)  
  
  
  
Computer-related activities to measure ICT skills are as follows:  
  
Copying or moving a file or folder  
  
Using copy and paste tools to duplicate or move information within a document  
  
Sending e-mails with attached files (e.g. document, picture, video)  
  
Using basic arithmetic formulas in a spreadsheet  
  
Connecting and installing new devices (e.g. a modem, camera, printer)  
  
Finding, downloading, installing and configuring software  
  
Creating electronic presentations with presentation software (including images, sound, video or charts)  
  
Transferring files between a computer and other devices  
  
Writing a computer program using a specialized programming language  
  
  
  
A computer refers to a desktop computer, a laptop (portable) computer or a tablet (or similar handheld computer). It does not include equipment with some embedded computing abilities, such as smart TV sets, and devices with telephony as their primary function, such as smartphones.  
  
  
  
Most individuals will have carried out more than one activity and therefore multiple responses are expected. The tasks are broadly ordered from less complex to more complex, although there is no requirement for a respondent to select simpler tasks before selecting a more complex task.   
  
   
  
 A decision was made in 2018 to modify the formulation of this indicator (At the 6th Expert Group meeting on ICT Household Indicators (EGH), in Geneva), to make the indicator independent of the device used. This data will be collected from member states from 2020 onwards, and incorporate changes to some of the skills categories that were agreed in the 6th and 7th EGH meetings. The revised and new skills categories will be:  
  
Using copy and paste tools to duplicate or move data, information and content in digital environments (e.g. within a document, between devices, on the cloud)  
  
Sending messages (e.g. e-mail, messaging service, SMS) with attached files (e.g. document, picture, video)  
  
Using basic arithmetic formulae in a spreadsheet  
  
Connecting and installing new devices (e.g. a modem, camera, printer) through wired or wireless technologies  
  
Finding, downloading, installing and configuring software and apps  
  
Creating electronic presentations with presentation software (including text, images, sound, video or charts)  
  
Transferring files or applications between devices (including via cloud-storage)  
  
Setting up effective security measures (e.g. strong passwords, log-in attempt notification) to protect devices and online accounts   
  
Changing privacy settings on your device, account or app to limit the sharing of personal data and information (e.g. name, contact information, photos)  
  
Verifying the reliability of information found online  
  
Programming or coding in digital environments (e.g. computer software, app development)  
  
  
  
  
  
Comments and limitations:  
  
  
  
  
  
This indicator is relatively new but based on an internationally-agreed definition and methodology, which have been developed under the coordination of International Telecommunications Union (ITU), through its Expert Groups and following an extensive consultation process with countries. It was also endorsed by the UN Statistical Commission in 2014, and again in 2020.  
  
  
  
The indicator is based on the responses provided by interviewees regarding certain activities that they have carried out in a reference period of time. However, it is not a direct assessment of skills nor do we know if those activities were undertaken effectively.  
  
  
  
Methodology  
  
  
  
  
  
Computation Method:  
  
  
  
  
  
This indicator is calculated as the proportion of in-scope who have carried out each activity in the past 3 months, regardless of where that activity took place. The indicator is expressed as a percentage.  
  
  
  
Figures supplied are expressed as a proportion of the in-scope population.  
  
  
  
Disaggregation:  
  
  
  
  
  
Since data for the indicator on the proportion of individuals with ICT skills, by type of skills are collected through a survey, classificatory variables for individuals can provide further information on the differences in ICT skills among men/women, children/adults (age groups), employed/unemployed, etc., according to national requirements These data may be used to inform targeted policies to improve ICT skills, and thus contribute to the development of an inclusive information society.  
  
Treatment of missing values:  
  
  
  
  
  
 At country level  
  
  
  
None by data compiler.  
  
  
  
  
  
 At regional and global levels  
  
  
  
None by data compiler.  
  
  
  
  
  
Regional aggregates:  
  
  
  
  
  
Regional and global aggregates are not currently available for this indicator.  
  
  
  
  
  
Sources of discrepancies:  
  
  
  
  
  
None  
  
  
  
  
  
Data Sources  
  
  
  
  
  
Description:  
  
  
  
  
  
Countries can collect data on this indicator through national household surveys. Data for different countries are compiled by ITU.  
  
  
  
  
  
Collection process:  
  
  
  
  
  
Data for different countries are compiled and provided by ITU.  
  
  
  
  
  
Data Availability  
  
  
  
  
  
Description:  
  
  
  
  
  
As of 2020, 91 economies have ever reported ICT skills data since 2005.  
  
  
  
Time series:  
  
  
  
  
  
2005 onwards  
  
  
  
  
  
Calendar  
  
  
  
  
  
Data collection:  
  
  
  
  
  
Various. Each survey has its own data collection cycle.  
  
  
  
  
  
Data release:  
  
  
  
  
  
ITU releases data twice per year on ICT skills.  
  
  
  
  
  
Data providers  
  
  
  
  
  
Name:  
  
  
  
  
  
Bodies responsible for conducting household surveys (including National Statistical Offices and Government Ministries) in which information on the use of ICT skills is collected. Data is compiled by ITU.  
  
Data compilers  
  
  
  
  
  
ITU  
  
  
  
  
  
References  
  
  
  
  
  
URL:  
  
  
  
  
  
International Telecommunication Union:  
  
https://www.itu.int/en/ITU-D/Statistics/Pages/default.aspx   
  
  
  
References:  
  
  
  
  
  
ITU Manual for Measuring ICT Access and Use by Households and Individuals 2020:  
  
https://www.itu.int/en/ITU-D/Statistics/Pages/publications/default.aspx  
  
  
  
  
  
  
  
  
  
  
  
Related indicators as of February 2020  
  
  
  
  
  
4.5, 5.b, 8.5, 8.6, 8.b, 9.2, 9.c

Last updated: May 2020  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.2: 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 4.2.1: Proportion of children aged 24-59 months of age who are developmentally on track in health, learning and psychosocial well-being, by sex  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
  
  
United Nations Children's Fund (UNICEF)  
  
  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
  
  
The proportion of children aged 24 to 59 months who are developmentally on track in health, learning and psychosocial well-being.  
  
  
  
Rationale:  
  
  
  
Early childhood development (ECD) sets the stage for life-long thriving. Investing in ECD is one of the most critical and cost-effective investments a country can make to improve adult health, education and productivity in order to build human capital and promote sustainable development. ECD is equity from the start and provides a good indication of national development. Efforts to improve ECD can bring about human, social and economic improvements for both individuals and societies.  
  
  
  
Concepts:  
  
  
  
The domains included in the indicator for SDG indicator 4.2.1 include the following concepts:  
  
Health: gross motor development, fine motor development and self-care  
  
Learning: expressive language, literacy, numeracy, pre-writing, and executive functioning  
  
Psychosocial well-being: emotional skills, social skills, internalizing behavior, and externalizing behavior  
  
  
  
The recommended measure for SDG 4.2.1 is the Early Childhood Development Index 2030 (ECDI2030) which is a 20-item instrument to measure developmental outcomes among children aged 24 to 59 months in population-based surveys. The indicator derived from the ECDI2030 is the proportion of children aged 24 to 59 months who have achieved the minimum number of milestones expected for their age group, defined as follows:  
  
Children age 24 to 29 months are classified as developmentally on-track if they have achieved at least 7 milestones;  
  
Children age 30 to 35 months are classified as developmentally on-track if they have achieved at least 9 milestones;  
  
Children age 36 to 41 months are classified as developmentally on-track if they have achieved at least 11 milestones;  
  
Children age 42 to 47 months are classified as developmentally on-track if they have achieved at least 13 milestones;  
  
Children age 48 to 59 months are classified as developmentally on-track if they have achieved at least 15 milestones.   
  
  
  
Comments and limitations:  
  
SDG 4.2.1 was initially classified as Tier 3 and was upgraded to Tier 2 in 2019; additionally, changes to the indicator were made during the 2020 comprehensive review. In light of this and given that the ECDI2030 was officially released in March 2020, it will take some time for country uptake and implementation of the new measure and for data to become available from a sufficiently large enough number of countries. Therefore, in the meantime, a proxy indicator (children aged 36-59 months who are developmentally on-track in at least three of the following four domains: literacy-numeracy, physical, social-emotional and learning) will be used to report on 4.2.1, when relevant. This proxy indicator has been used for global SDG reporting since 2015 but is not fully aligned with the definition and age group covered by the SDG indicator formulation. When the proxy indicator is used for SDG reporting on 4.2.1 for a country, it will be footnoted as such in the global SDG database.   
  
  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
The number of children aged 24 to 59 months who are developmentally on track in health, learning and psychosocial well-being divided by the total number of children aged 24 to 59 months in the population multiplied by 100.  
  
  
  
  
  
Disaggregation:  
  
Disaggregation by child’s age is required for this indicator.  
  
  
  
Additional valuable disaggregation to consider include child’s sex, place of residence, household wealth, geographic location and caregivers’ education.   
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
  
  
When data for a country are entirely missing, UNICEF does not publish any country-level estimate  
  
  
  
At regional and global levels  
  
  
  
The regional average is applied to those countries within the region with missing values for the purposes of calculating regional aggregates only but are not published as country-level estimates. Regional aggregates are only published when at least 50 per cent of the regional population for the relevant age group are covered by the available data.  
  
  
  
The global aggregate is a weighted average of all countries with available data. Global aggregates are published regardless of population coverage, but the number of countries and the proportion of the relevant population group represented by the available data are clearly indicated.   
  
  
  
Regional aggregates:  
  
  
  
Regional aggregates are weighted averages of all the countries within the region.  
  
  
  
Sources of discrepancies:  
  
  
  
The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.  
  
  
  
Methods and guidance available to countries for the compilation of the data at the national level:  
  
  
  
Countries gather prevalence data on children’s developmental status through household surveys such as UNICEF-supported MICS or Demographic and Health Surveys.   
  
  
  
  
  
Quality assurance  
  
  
  
UNICEF maintains the global database on ECD that is used for SDG and other official reporting. Before the inclusion of any data point in the database, it is reviewed by technical focal points at UNICEF headquarters to check for consistency and overall data quality. This review is based on a set of objective criteria to ensure that only the most recent and reliable information are included in the databases. These criteria include the following: data sources must include proper documentation; data values must be representative at the national population level; data are collected using an appropriate methodology (e.g., sampling); data values are based on a sufficiently large sample; data conform to the standard indicator definition including age group and concepts, to the extent possible; data are plausible based on trends and consistency with previously published/reported estimates for the indicator.   
  
  
  
As of 2018, UNICEF undertakes an annual consultation with government authorities on 10 of the child-related SDG indicators in its role of sole or joint custodian, and in line with its global monitoring mandate and normative commitments to advancing the 2030 Agenda for children. This includes indicator 4.2.1. More details on the process for the country consultation are outlined below.   
  
  
  
  
  
Data Sources  
  
  
  
Description:  
  
  
  
In 2015, UNICEF initiated a process of methodological development that involved extensive consultations with experts, partner agencies and national statistical authorities. Over the following five years, a sequence of carefully planned technical steps were executed, incorporating both qualitative and quantitative methods to identify the best items to measure indicator 4.2.1. This process led to the development of the ECDI2030.  
  
  
  
The ECDI2030 addresses the need for nationally representative and internationally comparable data on early childhood development, collected in a standardized way. It captures the achievement of key developmental milestones by children between the ages of 24 and 59 months. Mothers or primary caregivers are asked 20 questions about the way their children behave in certain everyday situations, and the skills and knowledge they have acquired.  
  
  
  
The ECDI2030 can be integrated into existing national data collection efforts, including international household survey programmes such as UNICEF-supported MICS and the Demographic and Health Surveys.   
  
  
  
The ECDI2030 is meant to replace the Early Childhood Development Index (or ECDI) which collects data on the proxy indicator for SDG 4.2.1 that has been in use since 2015. The former ECDI and the new ECDI2030 target different age groups and measure slightly different development domains. Therefore, the indicators generated by both instruments may not be fully comparable and caution is needed when interpreting estimates produced by the two measures.   
  
  
  
  
  
Collection process:  
  
  
  
UNICEF undertakes a wide consultative process of compiling and assessing data from national sources for the purposes of updating its global databases on the situation of children. Up until 2017, the mechanism UNICEF used to collaborate with national authorities on ensuring data quality and international comparability on key indicators of relevance to children was known as Country Data Reporting on the Indicators for the Goals (CRING).  
  
  
  
As of 2018, UNICEF launched a new country consultation process with national authorities on selected child-related global SDG indicators it is custodian or co-custodian to meet emerging standards and guidelines on data flows for global reporting of SDG indicators, which place strong emphasis on technical rigour, country ownership and use of official data and statistics. The consultation process solicited feedback directly from National Statistical Offices, as well as other government agencies responsible for official statistics, on the compilation of the indicators, including the data sources used, and the application of internationally agreed definitions, classification and methodologies to the data from that source. Once reviewed, feedback is made available to countries on whether or not specific data points are accepted, and if not, the reasons why. More details on the consultation process can be found in the guidance note.   
  
  
  
  
  
Data Availability  
  
  
  
Description:  
  
  
  
Data on the indicator collected through implementation of the ECDI2030 are expected to become available beginning in 2021. Comparable data collected by the ECDI are currently available for close to 80 countries. Countries with data on the proxy indicator collected with the ECDI will continue to be used for global SDG reporting until new data using the ECDI2030 are available.   
  
  
  
Time series:  
  
  
  
Not available   
  
  
  
Calendar  
  
  
  
Data collection:  
  
UNICEF will undertake an annual country consultation likely between December and January every year to allow for review and processing of the feedback received in order to meet global SDG reporting deadlines.  
  
  
  
Data release:  
  
Updated data on 4.2.1 as measured by the ECDI2030 will be available in the SDG reporting period every February/March.  
  
   
  
  
  
Data providers  
  
  
  
  
  
National Statistical Offices (in most cases)  
  
  
  
Data compilers  
  
  
  
UNICEF  
  
  
  
References  
  
  
  
URL:  
  
  
  
data.unicef.org  
  
  
  
References:  
  
  
  
http://data.unicef.org/ecd/development-status.html  
  
  
  
Development of the early childhood development index in MICS surveys (MICS Methodological Papers, Paper no. 6: https://tinyurl.com/y8t82jyk)  
  
  
  
  
  
Related indicators  
  
  
  
Indicator 4.2.2: Participation rate in organized learning (one year before the official primary entry age), by sex

Last updated: July 2016  
  
  
  
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  
  
Target 4.1: 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 4.1.1: 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)  
  
  
  
This metadata covers part (b) and (c) of indicator 4.1.1: proportion of children and young people (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  
  
  
  
Institutional information  
  
  
  
Organization(s):  
  
UNESCO Institute for Statistics (UNESCO-UIS)  
  
  
  
Concepts and definitions  
  
  
  
Definition:  
  
  
  
Percentage of children and young people in Grade 2 or 3 of primary education, at the end of primary education and the end of lower secondary education achieving at least a minimum proficiency level in (a) reading and (b) mathematics. The minimum proficiency level will be measured relative to new common reading and mathematics scales currently in development.  
  
  
  
Rationale:  
  
  
  
The indicator is a direct measure of the learning outcomes achieved in the two subject areas at the end of the relevant stages of education. The three measurement points will have their own established minimum standard. There is only one threshold that divides students into above and below minimum:   
  
  
  
(a) Below minimum is the proportion or percentage of students who do not achieve a minimum standard as set up by countries according to the globally-defined minimum competencies.  
  
  
  
(b) Above minimum is the proportion or percentage of students who have achieved the minimum standards. Due to heterogeneity of performance levels set by national and cross-national assessments, these performance levels will have to be mapped to the globally-defined minimum performance levels. Once the performance levels are mapped, the global education community will be able to identify for each country the proportion or percentage of children who achieved minimum standards.  
  
  
  
Concepts:  
  
  
  
Minimum proficiency level is the benchmark of basic knowledge in a domain (mathematics or reading) measured through learning assessments. For example, the Programme for International Student Assessment (PISA) reading test has six proficiency levels, of which Level 2 is described as the minimum proficiency level. In Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS), there are four proficiency levels: Low, Intermediate, High and Advanced. Students reaching the Intermediate benchmark are able to apply basic knowledge in a variety of situations, similar to the idea of minimum proficiency. Currently, there are no common standards validated by the international community or countries. The indicator shows data published by each of the agencies and organizations specialised in cross-national learning assessments.  
  
  
  
Comments and limitations:  
  
  
  
While data from many national assessments are available now, every country sets its own standards so the performance levels might not be comparable. One option is to link existing regional assessments based on a common framework. Furthermore, assessments are typically administered within school systems, the current indicators cover only those in school and the proportion of in-school target populations might vary from country to country due to varied out-of-school children populations. Assessing competencies of children and young people who are out of school would require household-based surveys. Assessing children in households is under consideration but may be very costly and difficult to administer and unlikely to be available on the scale needed within the next 3-5 years. Finally, the calculation of this indicator requires specific information on the ages of children participating in assessments to create globally-comparable data. The ages of children reported by the head of the household might not be consistent and reliable so the calculation of the indicator may be even more challenging. Due to the complication in assessing out-of-school children and the main focus on improving education system, the UIS is taking a stepping stone approach. It will concentrate on assessing children in school in the medium term, where much data are available, then develop more coherent implementation plan to assess out-of-school children in the longer term.  
  
  
  
Methodology  
  
  
  
Computation Method:  
  
  
  
The indicator is calculated as the percentage of children and/or young people at the relevant stage of education achieving or exceeding a pre-defined proficiency level in a given subject.   
  
  
  
Performance above the minimum level, PLtn,s,above minimum = p  
  
  
  
where p is the percentage of students in a learning assessment at stage of education n, in subject s in any year (t-i) where 0 ? i ? 5, who has achieved the level of proficiency that is greater than a pre-defined minimum standard, Smin. The minimum standard is defined by the global education community taking into consideration regional differences.  
  
  
  
Disaggregation:  
  
  
  
By age or age-group of students, sex, location, socio-economic status, migrant status and ethnicity. Disability status is not currently available in most national and cross-national learning assessments but could be considered for future assessments.  
  
  
  
Treatment of missing values:  
  
  
  
At country level  
  
  
  
None by data compiler.  
  
  
  
At regional and global levels  
  
  
  
None by data compiler.   
  
  
  
Regional aggregates:  
  
  
  
Regional and global aggregates are not currently available for this indicator.  
  
  
  
Data Sources  
  
  
  
Description:  
  
  
  
Various cross-national learning assessments including: Programme d'analyse des systèmes éducatifs de la CONFEMEN (PASEC), Progress in International Reading Literacy Study (PIRLS), Programme for International Student Assessment (PISA), Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ), Tercer Estudio Regional Comparativo y Explicativo (TERCE) and Trends in International Mathematics and Science Study (TIMSS). (a) Short-term strategy: Use national large-scale representative assessment data from cross-national assessments even though the performance levels may not be directly comparable. (b) Medium-term strategy: Use a global reporting scale based on either a new test or the statistical linking of national, regional and cross-national assessments.  
  
  
  
Collection process:  
  
  
  
For cross-national learning assessments, data were provided by the respective organizations responsible for each assessment.  
  
  
  
Data Availability  
  
  
  
Description:  
  
  
  
79 countries  
  
  
  
Time series:  
  
  
  
Latest year available in the period 2010-2015.  
  
  
  
Calendar  
  
  
  
Data collection:  
  
  
  
Various. Each learning assessment has its own data collection cycle.  
  
  
  
Data release:  
  
  
  
July 2016   
  
  
  
Data providers  
  
  
  
Name:  
  
  
  
Bodies responsible for conducting learning assessments (including Ministries of Education, National Statistical Offices and other data providers). For cross-national assessments, the data providers are the International Association for the Evaluation of Educational Achievement (IEA), Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación (LLECE), the Organisation for Economic Co-operation and Development (OECD), Programme d'Analyse des Systèmes Educatifs de la CONFEMEN (PASEC) and Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ).  
  
  
  
Data compilers  
  
  
  
UNESCO Institute for Statistics  
  
  
  
References  
  
  
  
URL:  
  
  
  
http://www.uis.unesco.org/Pages/default.aspx  
  
  
  
References:  
  
  
  
Programme d’analyse des systems éducatifs de la CONFEMEN (PASEC):   
  
  
  
http://www.pasec.confemen.org/  
  
  
  
Progress in International Reading Literacy Study (PIRLS): http://www.iea.nl/pirls\_2016.html   
  
  
  
Programme for International Student Assessment (PISA): https://www.oecd.org/pisa/aboutpisa/   
  
  
  
The Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ):   
  
  
  
http://www.sacmeq.org/?q=sacmeq-projects/sacmeq-iv   
  
  
  
Tercer Estudio Regional Comparativo y Explicativo (TERCE): http://www.unesco.org/new/es/santiago/education/education-assessment-llece/third-regional-comparative-and-explanatory-study-terce/  
  
  
  
Trends in International Mathematics and Science Study (TIMSS): http://www.iea.nl/timss\_2015.html  
  
  
  
Related indicators as of February 2020  
  
  
  
1.2, 1.4, 1.5, 2.1, 2.2, 2.3, 3.1, 3.3, 3.4, 3.7, 3.c, 4.5, 5.3, 5.4, 5.5, 5.b, 7.a, 8.6, 8.7, 8.b, 10.2, 10.6, 12.8, 13.3, 13.b, 16.a

**Education**



**Education** is the process of facilitating [learning,](https://en.wikipedia.org/wiki/Learning) or the acquisition of [knowledge,](https://en.wikipedia.org/wiki/Knowledge) [skills,](https://en.wikipedia.org/wiki/Skill) [values,](https://en.wikipedia.org/wiki/Values) [beliefs,](https://en.wikipedia.org/wiki/Belief) and [habits.](https://en.wikipedia.org/wiki/Habit_(psychology)) Educational methods include [storytelling,](https://en.wikipedia.org/wiki/Storytelling) [discussion,](https://en.wikipedia.org/wiki/Discussion) [teaching,](https://en.wikipedia.org/wiki/Teaching) [training,](https://en.wikipedia.org/wiki/Training) and directed [research.](https://en.wikipedia.org/wiki/Research) Education frequently takes place under the guidance of educators, however learners may also [educate themselves.](https://en.wikipedia.org/wiki/Autodidacticism)[[1]](#page15) Education can take place in [formal](https://en.wikipedia.org/wiki/Formality) or [informal](https://en.wikipedia.org/wiki/Informal_education) settings and any [experience](https://en.wikipedia.org/wiki/Experience) that has a formative effect on the way one thinks, feels, or acts may be considered educational. The methodology of teaching is called [pedagogy.](https://en.wikipedia.org/wiki/Pedagogy)



Formal education is commonly divided formally into such stages as [preschool](https://en.wikipedia.org/wiki/Preschool) or [kindergarten,](https://en.wikipedia.org/wiki/Kindergarten) [primary school,](https://en.wikipedia.org/wiki/Primary_school) [secondary school](https://en.wikipedia.org/wiki/Secondary_school) and then [college,](https://en.wikipedia.org/wiki/College) [university,](https://en.wikipedia.org/wiki/University) or [apprenticeship.](https://en.wikipedia.org/wiki/Apprenticeship)



[A right to education has been recognized by some governments and the United](https://en.wikipedia.org/wiki/United_Nations)



[Nations.](https://en.wikipedia.org/wiki/United_Nations)[[2]](#page15) [In most regions, education is](https://en.wikipedia.org/wiki/United_Nations) [compulsory](https://en.wikipedia.org/wiki/Compulsory_education) [up to a certain age. There is](https://en.wikipedia.org/wiki/United_Nations) [a movement for education reform, and in particular for the of evidence-based](https://en.wikipedia.org/wiki/Evidence-based_education) [education.](https://en.wikipedia.org/wiki/Evidence-based_education)



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Lecture at the Faculty of Biomedical [Engineering, Czech Technical](https://en.wikipedia.org/wiki/Czech_Technical_University_in_Prague) [University, in Prague, Czech](https://en.wikipedia.org/wiki/Czech_Republic) [Republic](https://en.wikipedia.org/wiki/Czech_Republic)



School children sitting in the shade of an orchard in Bamozai, near Gardez, Paktya Province, [Afghanistan](https://en.wikipedia.org/wiki/Afghanistan)



[Student participants in the FIRST](https://en.wikipedia.org/wiki/FIRST_Robotics_Competition) [Robotics Competition, Washington,](https://en.wikipedia.org/wiki/FIRST_Robotics_Competition) D.C.

The intelligence–education relationship

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**Etymology**



[Etymologically,](https://en.wikipedia.org/wiki/Etymologically) the word "education" is derived from the Latin word *[ēducātiō](https://en.wiktionary.org/wiki/en:educatio" \l "Latin)* ("A breeding, a bringing up, a rearing") from *[ēducō](https://en.wiktionary.org/wiki/en:educo" \l "Latin)* ("Ieducate, I train") which is related to the [homonym](https://en.wikipedia.org/wiki/Homonym) [ēdūcō](https://en.wiktionary.org/wiki/en:educo" \l "Latin) ("I lead forth, I take out; I raise up, I erect") from [ē-](https://en.wiktionary.org/wiki/en:e-" \l "Latin) ("from,

**

out of") and *[dūcō](https://en.wiktionary.org/wiki/en:duco" \l "Latin)* ("I lead, I conduct").[[3]](#page15)



**History**



Education began in prehistory, as adults trained the young in the knowledge and skills deemed necessary in their society. In pre-[literate](https://en.wikipedia.org/wiki/Literacy) societies, this was achieved orally and through imitation. Story-telling passed knowledge, values, and skills from one generation to the next. As cultures began to extend their [knowledge](https://en.wikipedia.org/wiki/Knowledge) beyond skills that could be readily learned through imitation, formal [education developed. Schools existed in Egypt at the time of the Middle](https://en.wikipedia.org/wiki/Middle_Kingdom_of_Egypt) [Kingdom.](https://en.wikipedia.org/wiki/Middle_Kingdom_of_Egypt)[[4]](#page15)



[Plato](https://en.wikipedia.org/wiki/Plato) founded the [Academy](https://en.wikipedia.org/wiki/Platonic_Academy) in [Athens,](https://en.wikipedia.org/wiki/Ancient_Athens) the first institution of higher learning in



[Europe.](https://en.wikipedia.org/wiki/Europe)[[5]](#page15) The city of [Alexandria](https://en.wikipedia.org/wiki/Alexandria) in Egypt, established in 330 BCE, became the successor to Athens as the intellectual cradle of [Ancient Greece.](https://en.wikipedia.org/wiki/Ancient_Greece) There, the great [Library of Alexandria](https://en.wikipedia.org/wiki/Library_of_Alexandria) was built in the 3rd century BCE. European civilizations suffered a collapse of literacy and organization following the fall of Rome in CE 476.[[6]](#page15)



In [China,](https://en.wikipedia.org/wiki/China) [Confucius](https://en.wikipedia.org/wiki/Confucius) (551–479 BCE), of the [State of Lu,](https://en.wikipedia.org/wiki/State_of_Lu) was the country's most influential ancient philosopher, whose educational outlook continues to influence the societies of China and neighbours like Korea, Japan, and Vietnam. Confucius gathered disciples and searched in vain for a ruler who would adopt his ideals for good governance, but his [Analects](https://en.wikipedia.org/wiki/Analects) were written down by followers and have



continued to influence education in East Asia into the modern era.[[7]](#page15)

The [Aztecs](https://en.wikipedia.org/wiki/Aztecs) also had a well-developed theory about education, which has an equivalent word in [Nahuatl](https://en.wikipedia.org/wiki/Nahuatl) called *tlacahuapahualiztli.* It means "the art of



Historical [Madrasah](https://en.wikipedia.org/wiki/Madrasah) in [Baku,](https://en.wikipedia.org/wiki/Baku) [Azerbaijan](https://en.wikipedia.org/wiki/Azerbaijan)



[Nalanda,](https://en.wikipedia.org/wiki/Nalanda) ancient centre for higher learning

raising or educating a person"[[8]](#page15) or "the art of strengthening or bringing up men."[[9]](#page15) This was a broad conceptualization of education, which prescribed that it begins at home, supported by formal schooling, and reinforced by community living.

Historians cite that formal education was mandatory for everyone regardless of social class and gender.[[10]](#page15) There was also the word *neixtlamachiliztli*, which is "the act of giving wisdom to the face."[[9]](#page15) These concepts underscore a complex set of educational practices, which was oriented towards communicating to the next generation the experience and intellectual heritage of the past for the purpose of individual development and



[Plato's](https://en.wikipedia.org/wiki/Plato) academy, [mosaic](https://en.wikipedia.org/wiki/Mosaic) from his integration into the community.[[9]](#page15)

[Pompeii](https://en.wikipedia.org/wiki/Pompeii)

[After the Fall of Rome, the Catholic](https://en.wikipedia.org/wiki/Catholic_Church)



[Church became the sole preserver of](https://en.wikipedia.org/wiki/Catholic_Church)



literate scholarship in Western Europe.[11] The church established [cathedral schools](https://en.wikipedia.org/wiki/Cathedral_schools) in the Early Middle Ages as centres of advanced education. Some of these establishments ultimately evolved into [medieval universities](https://en.wikipedia.org/wiki/Medieval_universities) and forebears of many of Europe's modern



[Matteo Ricci (left) and Xu](https://en.wikipedia.org/wiki/Xu_Guangqi) [Guangqi (right) in the](https://en.wikipedia.org/wiki/Xu_Guangqi) [Chinese edition of *Euclid's*](https://en.wikipedia.org/wiki/Euclid's_Elements) [*Elements* published in 1607](https://en.wikipedia.org/wiki/Euclid's_Elements)



universities.[[6]](#page15) During the High Middle Ages, [Chartres Cathedral](https://en.wikipedia.org/wiki/Chartres_Cathedral) operated the famous and



influential [Chartres Cathedral School.](https://en.wikipedia.org/wiki/School_of_Chartres) The medieval universities of Western Christendom were well-integrated across all of Western Europe, encouraged freedom of inquiry, and produced a great variety of fine scholars and natural philosophers, including [Thomas Aquinas](https://en.wikipedia.org/wiki/Thomas_Aquinas) of the [University of Naples,](https://en.wikipedia.org/wiki/University_of_Naples) [Robert Grosseteste](https://en.wikipedia.org/wiki/Robert_Grosseteste) of the [University of Oxford,](https://en.wikipedia.org/wiki/University_of_Oxford) an early expositor of a systematic



method of scientific experimentation,[[12]](#page15) and Saint [Albert the Great,](https://en.wikipedia.org/wiki/Albertus_Magnus) a pioneer of biological field research.[[13]](#page15) Founded in 1088, the [University of Bologne](https://en.wikipedia.org/wiki/University_of_Bologne) is considered the first, and the oldest continually operating university.[[14]](#page15)



Elsewhere during the Middle Ages, [Islamic science](https://en.wikipedia.org/wiki/Islamic_science) and [mathematics](https://en.wikipedia.org/wiki/Mathematics_in_medieval_Islam) flourished under the Islamic [caliphate](https://en.wikipedia.org/wiki/Caliphate) which was [established across the Middle East, extending from the Iberian Peninsula in the west to the Indus in the east and to the Almoravid](https://en.wikipedia.org/wiki/Almoravid_Dynasty) [Dynasty and](https://en.wikipedia.org/wiki/Almoravid_Dynasty) [Mali Empire](https://en.wikipedia.org/wiki/Mali_Empire) [in the south.](https://en.wikipedia.org/wiki/Almoravid_Dynasty)



[The Renaissance](https://en.wikipedia.org/wiki/The_Renaissance) in Europe ushered in a [new age of scientific and intellectual inquiry](https://en.wikipedia.org/wiki/Scientific_revolution) and appreciation of ancient Greek and Roman civilizations. Around 1450, [Johannes Gutenberg](https://en.wikipedia.org/wiki/Johannes_Gutenberg) developed a printing press, which allowed works of literature to spread more quickly. The European Age of Empires saw European ideas of education in philosophy, religion, arts and sciences spread [out across the globe. Missionaries and scholars also brought back new ideas from other civilizations – as with the Jesuit China](https://en.wikipedia.org/wiki/Jesuit_China_missions) [missions who played a significant role in the transmission of knowledge, science, and culture between China and Europe,](https://en.wikipedia.org/wiki/Jesuit_China_missions) translating works from Europe like [Euclid's Elements](https://en.wikipedia.org/wiki/Euclid's_Elements) for Chinese scholars and the thoughts of [Confucius](https://en.wikipedia.org/wiki/Confucius) for European audiences. [The Enlightenment](https://en.wikipedia.org/wiki/The_Enlightenment) saw the emergence of a more secular educational outlook in Europe.



In most countries today, full-time education, whether at school or [otherwise,](https://en.wikipedia.org/wiki/Homeschooling) is compulsory for all children up to a certain age. Due to this the proliferation of compulsory education, combined with population growth, [UNESCO](https://en.wikipedia.org/wiki/UNESCO) has calculated that in the next



30 years more people will receive formal education than in all of human history thus far.[[15]](#page15)

**Formal education**



Formal education occurs in a [structured environment](https://en.wikipedia.org/wiki/Learning_environment) whose explicit purpose is teaching [students.](https://en.wikipedia.org/wiki/Student) Usually, formal education takes place in a [school](https://en.wikipedia.org/wiki/School) environment with [classrooms](https://en.wikipedia.org/wiki/Classroom) of multiple students learning together with a trained, certified teacher of the subject. Most [school systems](https://en.wikipedia.org/wiki/Educational_management) are designed around a set of values or ideals that govern all educational choices in that system. Such choices include curriculum, [organizational models,](https://en.wikipedia.org/wiki/School_organizational_models) design of the physical [learning spaces](https://en.wikipedia.org/wiki/Learning_space) (e.g. classrooms), student-teacher



interactions, methods of assessment, class size, educational activities, and more.[[16][17]](#page15)

**Preschool**

Preschools provide education from ages approximately three to seven, depending on the country when children enter [primary education.](https://en.wikipedia.org/wiki/Primary_education) These are also known as [nursery schools](https://en.wikipedia.org/wiki/Nursery_schools) and as [kindergarten,](https://en.wikipedia.org/wiki/Kindergarten) except in the US, where the term



*kindergarten* refers to the earliest levels of primary education.[[18]](#page15)Kindergarten"provide[s] a child-centred, preschool curriculum for three- to seven-year-old children that aim[s] at unfolding the child's physical, intellectual, and moral nature with balanced emphasis on each of them."[[19]](#page16)

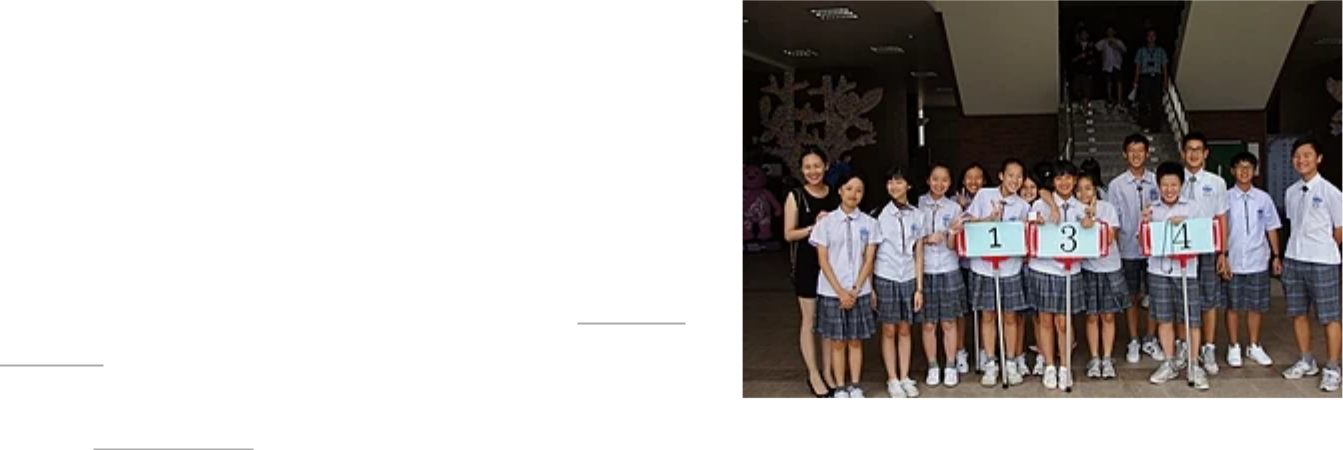
**Primary**

Young children in a [kindergarten](https://en.wikipedia.org/wiki/Kindergarten) in Japan



Primary (or elementary) education consists of the first five to seven years of

formal, structured education. In general, primary education consists of six to eight years of schooling starting at the age of five or six, although this varies between, and sometimes within, countries. Globally, around 89% of children aged six to twelve are enrolled in primary education, and this proportion is rising.[[20]](#page16) Under the [Education For All](https://en.wikipedia.org/wiki/Education_For_All) programs driven by [UNESCO,](https://en.wikipedia.org/wiki/UNESCO) most countries have committed to achieving universal enrollment in primary education by 2015, and in many countries, [it is compulsory. The division between primary and secondary](https://en.wikipedia.org/wiki/Secondary_education) [education is somewhat arbitrary, but it generally occurs at about](https://en.wikipedia.org/wiki/Secondary_education) eleven or twelve years of age. Some education systems have separate [middle schools,](https://en.wikipedia.org/wiki/Middle_school) with the transition to the final stage of secondary education taking place at around the age of fourteen. Schools that provide primary education, are mostly referred to as



*primary schools* or *elementary schools*. Primary schools are often subdivided into [infant schools](https://en.wikipedia.org/wiki/Infant_school) and [junior school.](https://en.wikipedia.org/wiki/Junior_school)



In India, for example, [compulsory education](https://en.wikipedia.org/wiki/Compulsory_education" \l "Variation_in_countries) spans over twelve years, with eight years of elementary education, five years of primary schooling and three years of upper primary schooling. Various states in the republic of India provide 12 years of [compulsory school education based on a national curriculum framework designed by the National Council of Educational](https://en.wikipedia.org/wiki/National_Council_of_Educational_Research_and_Training) [Research and Training.](https://en.wikipedia.org/wiki/National_Council_of_Educational_Research_and_Training)



**Secondary**

In most contemporary educational systems of the world, secondary education comprises the formal education that occurs during [adolescence.](https://en.wikipedia.org/wiki/Adolescence) It is characterized by transition from the typically compulsory, comprehensive [primary education](https://en.wikipedia.org/wiki/Primary_education) for [minors,](https://en.wikipedia.org/wiki/Minor_(law)) to the optional, selective [tertiary,](https://en.wikipedia.org/wiki/Tertiary_education) "postsecondary", or ["higher"](https://en.wikipedia.org/wiki/Higher_education) education (e.g. [university,](https://en.wikipedia.org/wiki/University) vocational school) for [adults.](https://en.wikipedia.org/wiki/Adult) Depending on the system, schools for this period, or a part of it, may be called secondary or [high schools,](https://en.wikipedia.org/wiki/High_school) [gymnasiums,](https://en.wikipedia.org/wiki/Gymnasium_(school)) [lyceums,](https://en.wikipedia.org/wiki/Lyceum) middle schools, [colleges,](https://en.wikipedia.org/wiki/College) or vocational schools. The exact meaning of any of these terms varies from one system to another. The exact boundary between primary and secondary education also varies from country to country and even within them but is generally around the seventh to the tenth year of schooling.



Students working with a teacher at [Albany Senior High School, New](https://en.wikipedia.org/wiki/New_Zealand) [Zealand](https://en.wikipedia.org/wiki/New_Zealand)



Secondary education occurs mainly during the teenage years. In the United States, Canada, and [Australia,](https://en.wikipedia.org/wiki/Australia) primary and secondary education together are sometimes referred to as [K-12](https://en.wikipedia.org/wiki/K–12_(education)) education, and in New Zealand Year 1–13 is used. The purpose of secondary education can be to give [common knowledge,](https://en.wikipedia.org/wiki/Common_knowledge) to prepare for [higher education,](https://en.wikipedia.org/wiki/Higher_education) or to train directly in a [profession.](https://en.wikipedia.org/wiki/Profession)



Secondary education in the United States did not emerge until 1910, with the rise of large corporations and advancing technology in factories, which required [skilled workers.](https://en.wikipedia.org/wiki/Skilled_worker) In order to meet this new job demand, [high schools](https://en.wikipedia.org/wiki/High_school_(North_America)) were created, with a curriculum focused on practical job skills that would better prepare students for [white collar](https://en.wikipedia.org/wiki/White-collar_worker) or skilled [blue collar](https://en.wikipedia.org/wiki/Blue-collar_worker) work. This proved beneficial for both employers and employees, since the improved human capital lowered costs for the employer, while skilled employees received higher wages.



[Dormitories on the campus of Phillips](https://en.wikipedia.org/wiki/Phillips_Exeter_Academy) [Exeter Academy, United States, a](https://en.wikipedia.org/wiki/Phillips_Exeter_Academy) [private high school](https://en.wikipedia.org/wiki/Private_high_school)



Secondary education has a longer history in Europe, where grammar schools or academies date from as early as the 16th century, in the form of [public schools,](https://en.wikipedia.org/wiki/Public_education) [fee-paying schools,](https://en.wikipedia.org/wiki/Fee-paying_school) or charitable educational foundations, which themselves date even further back.



[Community colleges](https://en.wikipedia.org/wiki/Community_college) offer another option at this transitional stage of education. They provide nonresidential junior college courses to people living in a particular area.



**Tertiary (higher)**

Higher education, also called tertiary, third stage, or postsecondary education, is the non-compulsory educational level that follows the completion of a school such as a high school or [secondary school.](https://en.wikipedia.org/wiki/Secondary_school) Tertiary education is normally taken [to include undergraduate and postgraduate education, as well as vocational](https://en.wikipedia.org/wiki/Vocational_education) [education and training. Colleges and universities mainly provide tertiary](https://en.wikipedia.org/wiki/Vocational_education) education. Collectively, these are sometimes known as tertiary institutions. Individuals who complete tertiary education generally receive [certificates,](https://en.wikipedia.org/wiki/Academic_certificate) [diplomas,](https://en.wikipedia.org/wiki/Diploma) or [academic degrees.](https://en.wikipedia.org/wiki/Academic_degree)



[Higher education typically involves work towards a degree-level or foundation](https://en.wikipedia.org/wiki/Foundation_degree) [degree qualification. In most developed countries, a high proportion of the](https://en.wikipedia.org/wiki/Foundation_degree) population (up to 50%) now enter higher education at some time in their lives. Higher education is therefore very important to national [economies,](https://en.wikipedia.org/wiki/Economies) both as a significant industry in its own right and as a source of trained and educated personnel for the rest of the economy.



University education includes teaching, research, and social services activities, [and it includes both the undergraduate level (sometimes referred to as tertiary](https://en.wikipedia.org/wiki/Tertiary_education) [education) and the](https://en.wikipedia.org/wiki/Tertiary_education) [graduate](https://en.wikipedia.org/wiki/Graduate_student) [(or postgraduate) level (sometimes referred to as](https://en.wikipedia.org/wiki/Tertiary_education) [graduate school)](https://en.wikipedia.org/wiki/Graduate_school). Some universities are composed of several colleges.



One type of university education is a [liberal arts](https://en.wikipedia.org/wiki/Liberal_arts) education, which can be defined as a ["college](https://en.wikipedia.org/wiki/College) or [university](https://en.wikipedia.org/wiki/University) [curriculum](https://en.wikipedia.org/wiki/Curriculum) aimed at imparting broad general knowledge and developing general intellectual capacities, in contrast to a professional, [vocational,](https://en.wikipedia.org/wiki/Vocational_education) or technical curriculum."[[21]](#page16) Although what is known



today as liberal arts education began in [Europe,](https://en.wikipedia.org/wiki/Europe)[[22]](#page16) the term ["liberal arts college"](https://en.wikipedia.org/wiki/Liberal_arts_college) is more commonly associated with institutions in the [United States](https://en.wikipedia.org/wiki/United_States) such as [Williams College](https://en.wikipedia.org/wiki/Williams_College) or [Barnard College.](https://en.wikipedia.org/wiki/Barnard_College)[[23]](#page16)



[Students in a laboratory, Saint](https://en.wikipedia.org/wiki/Saint_Petersburg_State_Polytechnical_University) [Petersburg State Polytechnical](https://en.wikipedia.org/wiki/Saint_Petersburg_State_Polytechnical_University) [University](https://en.wikipedia.org/wiki/Saint_Petersburg_State_Polytechnical_University)



Universities often host prominent guest speakers for student [audiences, e.g. First Lady of the](https://en.wikipedia.org/wiki/First_Lady_of_the_United_States) [United States](https://en.wikipedia.org/wiki/First_Lady_of_the_United_States) [Michelle Obama](https://en.wikipedia.org/wiki/Michelle_Obama) [delivering remarks at Peking](https://en.wikipedia.org/wiki/Peking_University) [University,](https://en.wikipedia.org/wiki/Peking_University) [Beijing,](https://en.wikipedia.org/wiki/Beijing) [China](https://en.wikipedia.org/wiki/China)

**Vocational**

[Vocational education](https://en.wikipedia.org/wiki/Vocational_education) is a form of education focused on direct and practical training for a specific trade or craft. Vocational education may come in the form of an [apprenticeship](https://en.wikipedia.org/wiki/Apprenticeship) or [internship](https://en.wikipedia.org/wiki/Internship) as well as institutions teaching courses such as [carpentry,](https://en.wikipedia.org/wiki/Carpentry) [agriculture,](https://en.wikipedia.org/wiki/Agriculture) [engineering,](https://en.wikipedia.org/wiki/Engineering) [medicine,](https://en.wikipedia.org/wiki/Medicine) [architecture](https://en.wikipedia.org/wiki/Architecture) and [the arts.](https://en.wikipedia.org/wiki/The_arts)



**Special**

In the past, those who were disabled were often not eligible for public education. Children with disabilities were repeatedly denied an education by [physicians](https://en.wikipedia.org/wiki/Physicians) or special tutors. These early physicians (people like [Itard,](https://en.wikipedia.org/wiki/Itard) [Seguin,](https://en.wikipedia.org/wiki/Édouard_Séguin) [Howe,](https://en.wikipedia.org/wiki/Samuel_Gridley_Howe) [Gallaudet)](https://en.wikipedia.org/wiki/Thomas_Hopkins_Gallaudet) set the foundation for special education today. They focused on individualized instruction and functional skills. In its early years, special education was only provided to people with severe disabilities, but more recently it has been opened to anyone who has experienced difficulty learning.[[24]](#page16)



Carpentry is normally learned through [apprenticeship](https://en.wikipedia.org/wiki/Apprenticeship) with an experienced carpenter



**Other educational forms**



**Alternative**

While considered "alternative" today, most alternative systems have existed since ancient times. After the public school system was widely developed beginning in the 19th century, some parents found reasons to be discontented with the new system. [Alternative education](https://en.wikipedia.org/wiki/Alternative_education) developed in part as a reaction to perceived limitations and failings of [traditional education.](https://en.wikipedia.org/wiki/Traditional_education) A broad range of educational approaches emerged, including [alternative schools,](https://en.wikipedia.org/wiki/Alternative_school) [self learning,](https://en.wikipedia.org/wiki/Autodidacticism) [homeschooling,](https://en.wikipedia.org/wiki/Homeschooling) and [unschooling.](https://en.wikipedia.org/wiki/Unschooling) Example [alternative schools include Montessori schools, Waldorf schools (or Steiner schools), Friends schools, Sands School, Summerhill](https://en.wikipedia.org/wiki/Summerhill_School) [School,](https://en.wikipedia.org/wiki/Summerhill_School) [Walden's Path,](https://en.wikipedia.org/wiki/Walden's_Path) [The Peepal Grove School,](https://en.wikipedia.org/wiki/The_Peepal_Grove_School) [Sudbury Valley School,](https://en.wikipedia.org/wiki/Sudbury_Valley_School) [Krishnamurti schools,](https://en.wikipedia.org/wiki/Jiddu_Krishnamurti) [and](https://en.wikipedia.org/wiki/Summerhill_School) [open classroom](https://en.wikipedia.org/wiki/Open_classroom) [schools.](https://en.wikipedia.org/wiki/Summerhill_School) [Charter schools](https://en.wikipedia.org/wiki/Charter_school) are another example of alternative education, which have in the recent years grown in numbers in the US and



gained greater importance in its public education system.[[25][26]](#page16)

[In time, some ideas from these experiments and paradigm challenges may be adopted as the norm in education, just as Friedrich](https://en.wikipedia.org/wiki/Friedrich_Fröbel) [Fröbel's approach to](https://en.wikipedia.org/wiki/Friedrich_Fröbel) [early childhood education](https://en.wikipedia.org/wiki/Early_childhood_education) [in 19th-century Germany has been incorporated into contemporary](https://en.wikipedia.org/wiki/Friedrich_Fröbel) [kindergarten](https://en.wikipedia.org/wiki/Kindergarten) classrooms. Other influential writers and thinkers have included the [Swiss](https://en.wikipedia.org/wiki/Switzerland) [humanitarian](https://en.wikipedia.org/wiki/Humanitarianism) [Johann Heinrich Pestalozzi;](https://en.wikipedia.org/wiki/Johann_Heinrich_Pestalozzi) the [American](https://en.wikipedia.org/wiki/United_States) [transcendentalists](https://en.wikipedia.org/wiki/Transcendentalism) [Amos Bronson Alcott,](https://en.wikipedia.org/wiki/Amos_Bronson_Alcott) [Ralph Waldo Emerson,](https://en.wikipedia.org/wiki/Ralph_Waldo_Emerson) and [Henry David Thoreau;](https://en.wikipedia.org/wiki/Henry_David_Thoreau) the founders of [progressive education,](https://en.wikipedia.org/wiki/Educational_progressivism) [John Dewey](https://en.wikipedia.org/wiki/John_Dewey) and [Francis Parker;](https://en.wikipedia.org/wiki/Francis_Wayland_Parker) and educational pioneers such as [Maria Montessori](https://en.wikipedia.org/wiki/Maria_Montessori) and [Rudolf Steiner,](https://en.wikipedia.org/wiki/Rudolf_Steiner) and more recently [John Caldwell Holt,](https://en.wikipedia.org/wiki/John_Caldwell_Holt) [Paul Goodman,](https://en.wikipedia.org/wiki/Paul_Goodman_(writer)) [Frederick Mayer,](https://en.wikipedia.org/wiki/Frederick_Mayer) [George Dennison,](https://en.wikipedia.org/wiki/George_Dennison) and [Ivan Illich.](https://en.wikipedia.org/wiki/Ivan_Illich)



**Indigenous**

[Indigenous education](https://en.wikipedia.org/wiki/Indigenous_education) refers to the inclusion of indigenous knowledge, models, methods, and content within formal and non-formal educational systems. Often in a post-colonial context, the growing recognition and use of indigenous education methods can be a response to the erosion and loss of indigenous knowledge and language through the processes of colonialism. Furthermore, it can enable indigenous communities to "reclaim and revalue their languages and cultures, and in so doing, improve the educational success of indigenous students."[[27]](#page16)



**Informal learning**

[**Informal learning** is one of three forms of learning defined by the Organisation](https://en.wikipedia.org/wiki/Organisation_for_Economic_Co-operation_and_Development)[for Economic Co-operation and Development (OECD). Informal learning occurs](https://en.wikipedia.org/wiki/Organisation_for_Economic_Co-operation_and_Development) in a variety of places, such as at [home,](https://en.wikipedia.org/wiki/Home) [work,](https://en.wikipedia.org/wiki/Employment) and through daily interactions and shared relationships among members of society. For many learners, this includes [language acquisition,](https://en.wikipedia.org/wiki/Language_acquisition) [cultural norms,](https://en.wikipedia.org/wiki/Cultural_norm) and [manners.](https://en.wikipedia.org/wiki/Manners)



In informal learning, there is often a reference person, a peer or expert, to guide the learner. If learners have a personal interest in what they are informally being taught, learners tend to expand their existing knowledge and conceive new ideas about the topic being learned.[[28]](#page16) For example, a museum is traditionally considered an informal learning environment, as there is room for free choice, a diverse and potentially non-standardized range of topics, flexible structures, socially rich interaction, and no externally imposed assessments.[[29]](#page16)

[Teaching indigenous knowledge,](https://en.wikipedia.org/wiki/Indigenous_education) [models, and methods in Yanyuan](https://en.wikipedia.org/wiki/Yanyuan_County) [County,](https://en.wikipedia.org/wiki/Yanyuan_County) [Sichuan,](https://en.wikipedia.org/wiki/Sichuan) [China](https://en.wikipedia.org/wiki/Yanyuan_County)



While informal learning often takes place outside educational [establishments](https://en.wikipedia.org/wiki/School) and does not follow a specified curriculum, it can also occur within educational settings and even during formal learning situations. Educators can structure their lessons to directly utilize their students informal learning skills within the education setting.[[28]](#page16)



In the late 19th century, education through play began to be recognized as making an important contribution to child development.[[30]](#page16) In the early 20th century, the concept was broadened to include young adults but the emphasis was on physical activities.[[31]](#page16) [L.P. Jacks,](https://en.wikipedia.org/wiki/L.P._Jacks) also an early proponent of lifelong learning, described education through recreation: "A master in the art of living draws no sharp distinction between his work and his play, his labour and his leisure, his mind and his body, his education and his recreation. He hardly knows which is which. He simply pursues his vision of excellence through whatever he is doing and leaves others to determine whether he is working or playing. To himself, he always seems to be doing both. Enough for him that he does it well."[[32]](#page16) Education through recreation is the opportunity to learn in a seamless fashion through all of life's activities.[33] The concept has been revived by the [University of Western Ontario](https://en.wikipedia.org/wiki/University_of_Western_Ontario) to teach [anatomy](https://en.wikipedia.org/wiki/Anatomy) to medical students.[33]



**Self-directed learning**

[Autodidacticism](https://en.wikipedia.org/wiki/Autodidacticism) (also autodidactism) is self-directed learning. One may become an autodidact at nearly any point in one's life. [Notable autodidacts](https://en.wikipedia.org/wiki/List_of_autodidacts) include [Abraham Lincoln](https://en.wikipedia.org/wiki/Abraham_Lincoln) (U.S. president), [Srinivasa Ramanujan](https://en.wikipedia.org/wiki/Srinivasa_Ramanujan) (mathematician), [Michael Faraday](https://en.wikipedia.org/wiki/Michael_Faraday) (chemist and physicist), [Charles Darwin](https://en.wikipedia.org/wiki/Charles_Darwin) (naturalist), [Thomas Alva Edison](https://en.wikipedia.org/wiki/Thomas_Alva_Edison) (inventor), [Tadao Ando](https://en.wikipedia.org/wiki/Tadao_Ando) (architect), [George Bernard Shaw](https://en.wikipedia.org/wiki/George_Bernard_Shaw) (playwright), [Frank Zappa](https://en.wikipedia.org/wiki/Frank_Zappa) (composer, recording engineer, film director), and [Leonardo da Vinci](https://en.wikipedia.org/wiki/Leonardo_da_Vinci) (engineer, scientist, mathematician).



**Evidence-based education**

Evidence-based education is the use of well designed scientific studies to determine which education methods work best. It consists of evidence-based teaching and evidence-based learning. [Evidence-based learning](https://en.wikipedia.org/wiki/Evidence-based_learning) methods such as [spaced repetition](https://en.wikipedia.org/wiki/Spaced_repetition) can



[increase rate of learning.](https://en.wikipedia.org/wiki/Evidence-based_practice)[[34]](#page16) [The evidence-based education movement has its roots in the larger movement towards evidence-based-practices.](https://en.wikipedia.org/wiki/Evidence-based_practice)



**Open education and electronic technology**

Many large university institutions are now starting to offer free or almost free full courses such as [Harvard,](https://en.wikipedia.org/wiki/Harvard_University) [MIT](https://en.wikipedia.org/wiki/Massachusetts_Institute_of_Technology) and [Berkeley](https://en.wikipedia.org/wiki/University_of_California,_Berkeley) teaming up to form [edX.](https://en.wikipedia.org/wiki/EdX) Other universities offering open education are prestigious private universities such as [Stanford,](https://en.wikipedia.org/wiki/Stanford_University) [Princeton,](https://en.wikipedia.org/wiki/Princeton_University) [Duke,](https://en.wikipedia.org/wiki/Duke_University) [Johns Hopkins,](https://en.wikipedia.org/wiki/Johns_Hopkins_University) the [University of Pennylvania,](https://en.wikipedia.org/wiki/University_of_Pennsylvania) and [Caltech,](https://en.wikipedia.org/wiki/California_Institute_of_Technology) as well as notable public universities including [Tsinghua,](https://en.wikipedia.org/wiki/Tsinghua_University) [Peking,](https://en.wikipedia.org/wiki/Peking_University) [Edinburgh,](https://en.wikipedia.org/wiki/University_of_Edinburgh) [University of Michigan,](https://en.wikipedia.org/wiki/University_of_Michigan) and [University of Virginia.](https://en.wikipedia.org/wiki/University_of_Virginia)



Open education has been called the biggest change in the way people learn since the printing press.[[35]](#page16) Despite favourable studies on effectiveness, many people may still desire to choose traditional campus education for social and cultural reasons.[[36]](#page16)

Many open universities are working to have the ability to offer students standardized testing and traditional degrees and credentials.[[37]](#page16)

[Beijing Normal University,](https://en.wikipedia.org/wiki/Beijing_Normal_University) which is [governed directly by the Chinese](https://en.wikipedia.org/wiki/Ministry_of_Education_of_the_People's_Republic_of_China) [Ministry of Education, is an example](https://en.wikipedia.org/wiki/Ministry_of_Education_of_the_People's_Republic_of_China) of collaboration between different entities in the education sector

The conventional merit-system degree is currently not as common in open education as it is in campus universities, although some [open universities](https://en.wikipedia.org/wiki/Open_universities) do already offer conventional degrees such as the [Open University](https://en.wikipedia.org/wiki/Open_University) in the [United Kingdom.](https://en.wikipedia.org/wiki/United_Kingdom) Presently, many of the major open education sources offer their own form of certificate. Due to the popularity of open education, these new kind of academic certificates are gaining more respect and equal ["academic value"](https://en.wikipedia.org/wiki/Academic_capital) to traditional degrees.[[38]](#page16)



Out of 182 colleges surveyed in 2009 nearly half said tuition for online courses was higher than for campus-based ones.[[39]](#page17)

A recent meta-analysis found that online and blended educational approaches had better outcomes than methods that used solely face-to-face interaction.[[40]](#page17)

**Education sector**



The education sector or education system is a group of institutions (ministries of education, local educational authorities, teacher training institutions, schools, universities, etc.) whose primary purpose is to provide education to children and young people in educational settings. It involves a wide range of people [(curriculum](https://en.wikipedia.org/wiki/Curriculum) developers, inspectors, school principals, teachers, school nurses,



students, etc.). These institutions can vary according to different contexts.[[41]](#page17)

Schools deliver education, with support from the rest of the education system through various elements such as [education policies](https://en.wikipedia.org/wiki/Education_policy) and guidelines – to which school policies can refer – curricula and learning materials, as well as pre- and in-service teacher training programmes. The school environment – both physical (infrastructures) and psychological (school climate) – is also guided by school policies that should ensure the well-being of students when they are in



school.[[41]](#page17) The [Organisation for Economic Co-operation and Development](https://en.wikipedia.org/wiki/Organisation_for_Economic_Co-operation_and_Development) has found that schools tend to perform best when principals have full authority and responsibility for ensuring that students are proficient in core subjects upon graduation. They must also seek feedback from students for quality-assurance and improvement. Governments should limit themselves to monitoring student proficiency.[[42]](#page17)



The education sector is fully integrated into society, through interactions with numerous stakeholders and other sectors. These include parents, local communities, religious leaders, NGOs, stakeholders involved in health, [child protection,](https://en.wikipedia.org/wiki/Child_protection) justice and law enforcement (police), media and political leadership.[[41]](#page17)



Several UN agencies have asserted that [comprehensive sexuality education](https://en.wikipedia.org/wiki/Comprehensive_sex_education) should be integrated into school curriculum.[[43]](#page17)



**Development goals**



Chimombo pointed out education's role as a policy instrument, capable of instilling social change and economic advancement in developing countries by giving communities the opportunity to take control of their destinies.[[44]](#page17) The 2030 Agenda for Sustainable Development, adopted by the United Nations (UN) General Assembly in September 2015, calls for a new vision to [address the environmental, social and economic concerns facing the world today. The Agenda includes 17 Sustainable](https://en.wikipedia.org/wiki/Sustainable_Development_Goals) [Development Goals (SDGs), including SDG 4 on education.](https://en.wikipedia.org/wiki/Sustainable_Development_Goals)[[45][46]](#page17)



Since 1909, the ratio of children in the developing world attending school has increased. Before then, a small minority of boys attended school. By the start of the 21st century, the majority of all children in most regions of the world attended school.

[Universal Primary Education is one of the eight international Millennium](https://en.wikipedia.org/wiki/Millennium_Development_Goals) [Development Goals, towards which progress has been made in the past decade,](https://en.wikipedia.org/wiki/Millennium_Development_Goals)



though barriers still remain.[[47]](#page17) Securing charitable funding from prospective [donors is one particularly persistent problem. Researchers at the Overseas](https://en.wikipedia.org/wiki/Overseas_Development_Institute) [Development Institute have indicated that the main obstacles to funding for](https://en.wikipedia.org/wiki/Overseas_Development_Institute)



[World map indicating Education](https://en.wikipedia.org/wiki/Education_Index) [Index (according to 2007/2008](https://en.wikipedia.org/wiki/Education_Index) [Human Development Report)](https://en.wikipedia.org/wiki/Human_Development_Report)



education include conflicting donor priorities, an immature aid architecture, and a lack of evidence and advocacy for the issue.[[47]](#page17) Additionally, [Transparency International](https://en.wikipedia.org/wiki/Transparency_International) has identified [corruption](https://en.wikipedia.org/wiki/Political_corruption) in the education sector as a major stumbling block to achieving



Universal Primary Education in Africa.[[48]](#page17) Furthermore, demand in the developing world for improved educational access is not as high as foreigners have expected. Indigenous governments are reluctant to take on the ongoing costs involved. There is also economic pressure from some parents, who prefer their children to earn money in the short term rather than work towards the long-term benefits of education.

A study conducted by the [UNESCO International Institute for Educational Planning](https://en.wikipedia.org/wiki/UNESCO_International_Institute_for_Educational_Planning) indicates that stronger capacities in



educational planning and management may have an important spill-over effect on the system as a whole.[[49]](#page17) Sustainable capacity development requires complex interventions at the institutional, organizational and individual levels that could be based on some foundational principles:[[49]](#page17)

national leadership and ownership should be the touchstone of any intervention; strategies must be context relevant and context specific;



plans should employ an integrated set of complementary interventions, though implementation may need to proceed in steps;



partners should commit to a long-term investment in capacity development while working towards some short-term achievements;



outside intervention should be conditional on an impact assessment of national capacities at various levels;



a certain percentage of students should be removed for improvisation of academics (usually practiced in schools, after 10th grade).



**Internationalization**

Nearly every country now has [Universal Primary Education.](https://en.wikipedia.org/wiki/Universal_Primary_Education)



Similarities – in systems or even in ideas – that schools share internationally have led to an increase in international student [exchanges. The European Socrates-Erasmus Program](https://en.wikipedia.org/wiki/Soros_Foundation)[[50]](#page17) [facilitates exchanges across European universities. The Soros](https://en.wikipedia.org/wiki/Soros_Foundation) [Foundation](https://en.wikipedia.org/wiki/Soros_Foundation)[[51]](#page17) [provides many opportunities for students from central Asia and eastern Europe. Programs such as the](https://en.wikipedia.org/wiki/Soros_Foundation) [International Baccalaureate](https://en.wikipedia.org/wiki/International_Baccalaureate) have contributed to the internationalization of education. The global campus online, led by American universities, allows free access to class materials and lecture files recorded during the actual classes.



[The Programme for International Student Assessment and the International Association for the Evaluation of Educational](https://en.wikipedia.org/wiki/International_Association_for_the_Evaluation_of_Educational_Achievement) [Achievement objectively monitor and compare the proficiency of students from a wide range of different nations.](https://en.wikipedia.org/wiki/International_Association_for_the_Evaluation_of_Educational_Achievement)



The internationalization of education is sometimes equated by critics with the westernization of education. These critics say that the internationalization of education leads to the erosion of local education systems and indigenous values and norms, which are replaced with Western systems and cultural and ideological values and orientation.[[52]](#page17)

**Education and technology in developing countries**

Technology plays an increasingly significant role in improving access to education for people living in impoverished areas and [developing countries.](https://en.wikipedia.org/wiki/Developing_countries)



However, lack of technological advancement is still causing barriers with regards to quality and access to education in developing countries.[[53]](#page17) Charities like [One Laptop per Child](https://en.wikipedia.org/wiki/One_Laptop_per_Child) are dedicated to providing infrastructures through which the disadvantaged may access educational materials.



The [OLPC foundation,](https://en.wikipedia.org/wiki/One_Laptop_per_Child) a group out of [MIT Media Lab](https://en.wikipedia.org/wiki/MIT_Media_Lab) and supported by several



major corporations, has a stated mission to develop a [$100 laptop](https://en.wikipedia.org/wiki/$100_laptop) for delivering



[educational software.](https://en.wikipedia.org/wiki/Educational_software) The laptops were widely available as of 2008. They are



sold at cost or given away based on donations.

In Africa, the [New Partnership for Africa's Development](https://en.wikipedia.org/wiki/New_Partnership_for_Africa's_Development) (NEPAD) has launched



The OLPC laptop being introduced to children in [Haiti](https://en.wikipedia.org/wiki/Haiti)



[an "e-school program" to provide all 600,000 primary and high schools with computer equipment, learning materials and internet](https://en.wikipedia.org/wiki/Internet_access)



[access within 10 years.](https://en.wikipedia.org/wiki/Internet_access)[[54]](#page17) [An International Development Agency project called nabuur.com,](https://en.wikipedia.org/wiki/Internet_access)[[55]](#page17) [started with the support of](https://en.wikipedia.org/wiki/Internet_access)



former American President [Bill Clinton,](https://en.wikipedia.org/wiki/Bill_Clinton) uses the [Internet](https://en.wikipedia.org/wiki/Internet) to allow co-operation by individuals on issues of social development.



[India](https://en.wikipedia.org/wiki/India) is developing technologies that will bypass land-based [telephone](https://en.wikipedia.org/wiki/Telephone) and Internet infrastructure to deliver [distance learning](https://en.wikipedia.org/wiki/Distance_learning)



directly to its students. In 2004, the [Indian Space Research Organisation](https://en.wikipedia.org/wiki/Indian_Space_Research_Organisation) launched [EDUSAT,](https://en.wikipedia.org/wiki/GSAT-3) a communications satellite



providing access to educational materials that can reach more of the country's population at a greatly reduced cost.[[56]](#page17)

**Private vs public funding in developing countries**

[Research into LCPS (low-cost private schools) found that over 5 years to July 2013, debate around LCPSs to achieving Education](https://en.wikipedia.org/wiki/Education_for_All)



[for All (EFA) objectives was polarized and finding growing coverage in international policy.](https://en.wikipedia.org/wiki/Education_for_All)[[57]](#page17) [The polarization was due to](https://en.wikipedia.org/wiki/Education_for_All) disputes around whether the schools are affordable for the poor, reach disadvantaged groups, provide quality education, support or undermine equality, and are financially sustainable. The report examined the main challenges encountered by development organizations which support LCPSs.[[57]](#page17) Surveys suggest these types of schools are expanding across Africa and Asia. This success is attributed to excess demand. These surveys found concern for:



Equity: This concern is widely found in the literature, suggesting the growth in low-cost private schooling may be exacerbating or perpetuating already existing inequalities in developing countries, between urban and rural populations, lower- and higher-income families, and between girls and boys. The report findings suggest that girls may be underrepresented and that LCPS are reaching low-income families in smaller numbers than higher-income families.



Quality and educational outcomes: It is difficult to generalize about the quality of private schools. While most achieve better results than government counterparts, even after their social background is taken into account, some studies find the opposite. Quality in terms of levels of teacher absence, teaching activity, and pupil to teacher ratios in some countries are better in LCPSs than in government schools.



Choice and affordability for the poor: Parents can choose private schools because of perceptions of better-quality teaching and facilities, and an English language instruction preference. Nevertheless, the concept of 'choice' does not apply in all contexts, or to all groups in society, partly because of limited affordability (which excludes most of the poorest) and other forms of exclusion, related to caste or social status.



Cost-effectiveness and financial sustainability: There is evidence that private schools operate at low cost by keeping teacher salaries low, and their financial situation may be precarious where they are reliant on fees from low-income households.



The report showed some cases of successful voucher and subsidy programs; evaluations of international support to the sector are not widespread.[[57]](#page17) Addressing regulatory ineffectiveness is a key challenge. Emerging approaches stress the importance of understanding the political economy of the market for LCPS, specifically how relationships of power and accountability between users, government, and private providers can produce better education outcomes for the poor.

**Educational theory**



**Educational psychology**

[Educational psychology](https://en.wikipedia.org/wiki/Educational_psychology) is the study of how humans learn in educational settings, the effectiveness of educational interventions, the psychology of teaching, and the [social psychology](https://en.wikipedia.org/wiki/Social_psychology) of [schools](https://en.wikipedia.org/wiki/School) as [organizations.](https://en.wikipedia.org/wiki/Organization) Although the terms "educational psychology" and "school psychology" are often used interchangeably, researchers and theorists are likely to be identified as [educational psychologists,](https://en.wikipedia.org/wiki/Category:Educational_psychologists) whereas practitioners in schools or school-related settings are identified as [school psychologists.](https://en.wikipedia.org/wiki/School_psychologist) Educational psychology is concerned with the processes of educational attainment in the general population and in sub-populations such as [gifted](https://en.wikipedia.org/wiki/Gifted) children and those with specific [disabilities.](https://en.wikipedia.org/wiki/Disabilities)



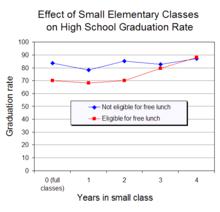
Educational psychology can in part be understood through its relationship with other disciplines. It is informed primarily by [psychology,](https://en.wikipedia.org/wiki/Psychology) bearing a relationship to that discipline analogous to the relationship between [medicine](https://en.wikipedia.org/wiki/Medicine) and [biology.](https://en.wikipedia.org/wiki/Biology)



Educational psychology, in turn, informs a wide range of specialties within educational studies, including [instructional design,](https://en.wikipedia.org/wiki/Instructional_design) [educational technology,](https://en.wikipedia.org/wiki/Educational_technology) curriculum development, [organizational learning,](https://en.wikipedia.org/wiki/Organizational_learning) [special education](https://en.wikipedia.org/wiki/Special_education) and [classroom management.](https://en.wikipedia.org/wiki/Classroom_management) Educational psychology both draws from and contributes to [cognitive science](https://en.wikipedia.org/wiki/Cognitive_science) and the [learning sciences.](https://en.wikipedia.org/wiki/Learning_sciences) In universities, departments of educational psychology are usually housed within faculties of education, possibly accounting for the lack of representation of educational psychology content in introductory psychology textbooks (Lucas, Blazek, & Raley, 2006).



A class size experiment in the United States found that attending small classes for 3 or more years in the early grades increased [high school](https://en.wikipedia.org/wiki/High_school) [graduation rates of students from low](https://en.wikipedia.org/wiki/Low_income) [income families.](https://en.wikipedia.org/wiki/Low_income)[[58]](#page17)



**The intelligence–education relationship**

Knowledge Day in [Donetsk,](https://en.wikipedia.org/wiki/Donetsk) [Ukraine,](https://en.wikipedia.org/wiki/Ukraine) 2013

[Intelligence](https://en.wikipedia.org/wiki/Intelligence) is an important factor in how the individual responds to education. Those who have higher intelligence tend to perform better at school and go on to



higher levels of education.[[59]](#page17) This effect is also observable in the opposite direction, in that education increases measurable intelligence.[[60]](#page18) Studies have shown that while educational attainment is important in predicting intelligence in later life, intelligence at 53 is more closely correlated to intelligence at 8 years old than to educational attainment.[[61]](#page18)

**Learning modalities**

There has been much interest in learning modalities and styles over the last two decades. The most commonly employed learning modalities are:[[62]](#page18)

[Visual:](https://en.wikipedia.org/wiki/Visual) learning based on observation and seeing what is being learned.



[Auditory:](https://en.wikipedia.org/wiki/Hearing_(sense)) learning based on listening to instructions/information.



[Kinesthetic:](https://en.wikipedia.org/wiki/Kinesthetic) learning based on movement, e.g. hands-on work and engaging in activities.



Other commonly employed modalities include [musical,](https://en.wikipedia.org/wiki/Music) [interpersonal,](https://en.wikipedia.org/wiki/Interpersonal) [verbal,](https://en.wikipedia.org/wiki/Verbal_reasoning) [logical,](https://en.wikipedia.org/wiki/Logical) and [intrapersonal.](https://en.wikipedia.org/wiki/Intrapersonal)



Dunn and Dunn[[63]](#page18) focused on identifying relevant stimuli that may influence learning and manipulating the school environment, at about the same time as [Joseph Renzulli](https://en.wikipedia.org/wiki/Joseph_Renzulli)[[64]](#page18) recommended varying teaching strategies. [Howard Gardner](https://en.wikipedia.org/wiki/Howard_Gardner)[[65]](#page18) identified a wide range of modalities in his [Multiple Intelligences](https://en.wikipedia.org/wiki/Multiple_Intelligences) theories. The [Myers-Briggs Type Indicator](https://en.wikipedia.org/wiki/Myers-Briggs_Type_Indicator) and [Keirsey Temperament Sorter,](https://en.wikipedia.org/wiki/Keirsey_Temperament_Sorter)



based on the works of [Jung,](https://en.wikipedia.org/wiki/Jung)[[66]](#page18) focus on understanding how people's personality affects the way they interact personally, and how [this affects the way individuals respond to each other within the learning environment. The work of David Kolb and Anthony](https://en.wikipedia.org/wiki/Anthony_Gregorc) [Gregorc's Type Delineator](https://en.wikipedia.org/wiki/Anthony_Gregorc)[[67]](#page18) [follows a similar but more simplified approach.](https://en.wikipedia.org/wiki/Anthony_Gregorc)



Some theories propose that all individuals benefit from a variety of learning modalities, while others suggest that individuals may have preferred learning styles, learning more easily through visual or kinesthetic experiences.[[68]](#page18) A consequence of the latter theory is that effective teaching should present a variety of teaching methods which cover all three learning modalities so that different students have equal opportunities to learn in a way that is effective for them.[[69]](#page18) Guy Claxton has questioned the extent that [learning styles](https://en.wikipedia.org/wiki/Learning_styles) such as Visual, Auditory and Kinesthetic(VAK) are helpful, particularly as they can have a tendency to label



children and therefore restrict learning.[[70][71]](#page18) Recent research has argued, "there is no adequate evidence base to justify incorporating learning styles assessments into general educational practice."[[72]](#page18)

**Mind, Brain and Education**

[Educational neuroscience is an emerging scientific field that brings together researchers in cognitive neuroscience, developmental](https://en.wikipedia.org/wiki/Developmental_cognitive_neuroscience) [cognitive neuroscience,](https://en.wikipedia.org/wiki/Developmental_cognitive_neuroscience) [educational psychology,](https://en.wikipedia.org/wiki/Educational_psychology) [educational technology,](https://en.wikipedia.org/wiki/Educational_technology) [education theory](https://en.wikipedia.org/wiki/Education_theory) [and other related disciplines to explore](https://en.wikipedia.org/wiki/Developmental_cognitive_neuroscience)



the interactions between biological processes and education.[[73][74][75][76]](#page18) Researchers in educational neuroscience investigate the [neural](https://en.wikipedia.org/wiki/Neural) mechanisms of [reading,](https://en.wikipedia.org/wiki/Reading_(process))[[75]](#page18) [numerical cognition,](https://en.wikipedia.org/wiki/Numerical_cognition)[[77]](#page18) [attention,](https://en.wikipedia.org/wiki/Attention) and their attendant difficulties including [dyslexia,](https://en.wikipedia.org/wiki/Dyslexia)[[78][79]](#page19)



[dyscalculia,](https://en.wikipedia.org/wiki/Dyscalculia)[[80]](#page19) and [ADHD](https://en.wikipedia.org/wiki/ADHD) as they relate to education. Several academic institutions around the world are beginning to devote resources to the establishment of educational neuroscience research.



**Philosophy**

As an academic field, philosophy of education is "the philosophical study of education and its problems (...) its central subject matter is education, and its methods are those of [philosophy".](https://en.wikipedia.org/wiki/Philosophy)[[81]](#page19) "The philosophy of education may be either the philosophy of the process of education or the philosophy of the discipline of education. That is, it may be part of the discipline in the sense of being concerned with the aims, forms, methods, or results of the process of educating or being educated; or it may be metadisciplinary in the sense of being concerned with the concepts, aims, and methods of the discipline."[[82]](#page19) As such, it is both part of the field of education and a field of [applied philosophy,](https://en.wikipedia.org/wiki/Applied_philosophy) drawing from fields of [metaphysics,](https://en.wikipedia.org/wiki/Metaphysics) [epistemology,](https://en.wikipedia.org/wiki/Epistemology) [axiology](https://en.wikipedia.org/wiki/Axiology) and the philosophical approaches (speculative, prescriptive or [analytic)](https://en.wikipedia.org/wiki/Analytic_philosophy) to address questions in and about [pedagogy,](https://en.wikipedia.org/wiki/Pedagogy) [education policy,](https://en.wikipedia.org/wiki/Education_policy) and



[curriculum,](https://en.wikipedia.org/wiki/Curriculum) as well as the process of [learning,](https://en.wikipedia.org/wiki/Learning_theory_(education)) to name a few.[[83]](#page19) For example, it might study what constitutes upbringing and education, the values and norms revealed through upbringing and educational practices, the limits and legitimization of education as an academic discipline, and the relation between [education theory](https://en.wikipedia.org/wiki/Education_theory) and practice.



**Purpose of education**

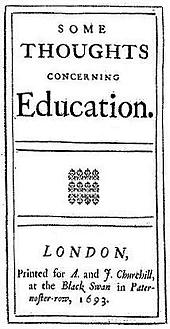
There is no broad consensus as to what education's chief aim or aims are or should be. Different places, and at different times, have used educational systems for different purposes. The [Prussian education system](https://en.wikipedia.org/wiki/Prussian_education_system) in the 19th century, for example, wanted to turn



boys and girls into adults who would serve the state's political goals.[[84][85]](#page19)

Some authors stress its value to the individual, emphasizing its potential for positively influencing students' personal development, promoting autonomy, forming a cultural identity or establishing a career or occupation. Other authors emphasize education's

[John Locke's work *Some*](https://en.wikipedia.org/wiki/Some_Thoughts_Concerning_Education) [*Thoughts Concerning*](https://en.wikipedia.org/wiki/Some_Thoughts_Concerning_Education)[*Education* was written in](https://en.wikipedia.org/wiki/Some_Thoughts_Concerning_Education)1693 and still reflects traditional education priorities in the Western world.



contributions to societal purposes, including good citizenship, shaping students into productive members of society, thereby promoting society's general economic development, and preserving cultural values.[[86]](#page19)

The purpose of education in a given time and place affects who is taught, what is taught, and how the education system behaves. For example, in the 21st century, many countries treat education as a [positional good.](https://en.wikipedia.org/wiki/Positional_good)[[87]](#page19) In this competitive approach, people



want their own students to get a better education than other students.[[87]](#page19) This approach can lead to unfair treatment of some students, especially those from disadvantaged or marginalized groups.[[87]](#page19) For example, in this system, a city's school system may draw school district boundaries so that nearly all the students in one school are from low-income families, and that nearly all the students in the neighboring schools come from more affluent families, even though concentrating low-income students in one school results in worse educational achievement for the entire school system.

**Curriculum**

In formal education, a [curriculum](https://en.wikipedia.org/wiki/Curriculum) is the set of courses and their content offered at a [school](https://en.wikipedia.org/wiki/School) or [university.](https://en.wikipedia.org/wiki/University) As an idea, **curriculum** stems from the [Latin](https://en.wikipedia.org/wiki/Latin) word for [*race course*](https://en.wikipedia.org/wiki/Race_course), referring to the course of [deeds](https://en.wiktionary.org/wiki/deed) and experiences through which [children](https://en.wikipedia.org/wiki/Child) grow to become mature [adults.](https://en.wikipedia.org/wiki/Adult) A curriculum is prescriptive and is based on a more general [syllabus](https://en.wikipedia.org/wiki/Syllabus) which merely specifies what topics must be understood and to what level to achieve a particular grade or standard.



An [academic discipline](https://en.wikipedia.org/wiki/List_of_academic_disciplines) is a branch of knowledge which is formally taught, either at the university – or via some other such method. Each discipline usually has several sub-disciplines or branches, and distinguishing lines are often both arbitrary and [ambiguous. Examples of broad areas of academic disciplines include the natural sciences, mathematics, computer science, social](https://en.wikipedia.org/wiki/Social_science) [sciences,](https://en.wikipedia.org/wiki/Social_science) [humanities](https://en.wikipedia.org/wiki/Humanities) [and](https://en.wikipedia.org/wiki/Social_science) [applied sciences.](https://en.wikipedia.org/wiki/Applied_science)[[88]](#page19)



Educational institutions may incorporate [fine arts](https://en.wikipedia.org/wiki/Fine_arts) as part of K-12 grade curricula or within majors at [colleges](https://en.wikipedia.org/wiki/College) and universities as electives. The various types of fine arts are music, dance, and theatre.[[89]](#page19)



The [Sudbury Valley School](https://en.wikipedia.org/wiki/Sudbury_Valley_School) offers a model of education without a curricula.[[90]](#page19)



**Instruction**

Instruction is the facilitation of another's learning. Instructors in primary and secondary institutions are often called [teachers,](https://en.wikipedia.org/wiki/Teacher) and they direct the education of [students](https://en.wikipedia.org/wiki/Student) and might draw on many [subjects](https://en.wikipedia.org/wiki/Course_(education)) like [reading,](https://en.wikipedia.org/wiki/Reading_(process)) [writing,](https://en.wikipedia.org/wiki/Writing) [mathematics,](https://en.wikipedia.org/wiki/Mathematics) [science](https://en.wikipedia.org/wiki/Science) and [history.](https://en.wikipedia.org/wiki/History) Instructors in post-secondary institutions might be called [teachers,](https://en.wikipedia.org/wiki/Teacher) instructors, or [professors,](https://en.wikipedia.org/wiki/Professor) depending on the type of institution; and they primarily teach only their specific discipline. Studies from the United States suggest that the quality of teachers is the single most important factor affecting student performance, and that countries which score highly on international tests have multiple policies in place to ensure that the teachers they employ are as effective as possible.[[91][92]](#page19) With the passing of NCLB in the United States (No Child Left Behind), teachers must be highly qualified. A popular way to gauge teaching performance is to use student evaluations of teachers (SETS), but these evaluations have been criticized for being counterproductive to learning and inaccurate due to student bias.[[93]](#page19)



College basketball coach [John Wooden](https://en.wikipedia.org/wiki/John_Wooden) the Wizard of Westwood would teach through quick "This not That" technique. He would show (a) the correct way to perform an action, (b) the incorrect way the player performed it, and again (c) the correct way to perform an action. This helped him to be a responsive teacher and fix errors on the fly. Also, less communication from him meant more time that the player could practice.[[94]](#page19)



**Economics of education**



It has been argued that high rates of education are essential for countries to be able to achieve high levels of [economic growth.](https://en.wikipedia.org/wiki/Economic_growth)[[95]](#page19) Empirical analyses tend to support the theoretical prediction that poor countries should grow faster than rich countries because they can adopt cutting edge technologies already tried and tested by rich countries. However, [technology transfer](https://en.wikipedia.org/wiki/Technology_transfer) requires knowledgeable managers and engineers who are able to operate new machines or production practices borrowed from the leader in order to close the gap through imitation. Therefore, a country's ability to learn from the leader is a function of its stock of ["human capital".](https://en.wikipedia.org/wiki/Human_capital) Recent study of the determinants of aggregate economic



growth have stressed the importance of fundamental economic institutions[[96]](#page20) and the role of cognitive skills.[[97]](#page20)

Students on their way to school, [Hakha,](https://en.wikipedia.org/wiki/Hakha) [Chin State,](https://en.wikipedia.org/wiki/Chin_State) [Myanmar](https://en.wikipedia.org/wiki/Burma)



At the level of the individual, there is a large literature, generally related to the

work of [Jacob Mincer,](https://en.wikipedia.org/wiki/Jacob_Mincer)[[98]](#page20) on how earnings are related to the schooling and other human capital. This work has motivated many



studies, but is also controversial. The chief controversies revolve around how to interpret the impact of schooling.[[99][100]](#page20) Some students who have indicated a high potential for learning, by testing with a high [intelligence quotient,](https://en.wikipedia.org/wiki/Intelligence_quotient) may not achieve their full academic potential, due to financial difficulties.[[101]](#page20)



Economists [Samuel Bowles](https://en.wikipedia.org/wiki/Samuel_Bowles_(economist)) and Herbert Gintis argued in 1976 that there was a fundamental conflict in American schooling between the [egalitarian](https://en.wikipedia.org/wiki/Egalitarianism) goal of democratic participation and the inequalities implied by the continued profitability of capitalist



production.[[102]](#page20)

**The future of education**



Many countries are now drastically changing the way they educate their citizens. The world is changing at an ever quickening rate, which means that a lot of knowledge becomes obsolete and inaccurate more quickly. The emphasis is therefore shifting to teaching the skills of learning: to picking up new knowledge quickly and in as agile a way as possible. Finnish schools have even begun to move away from the regular subject-focused curricula, introducing instead developments like phenomenon-based learning, where students study concepts like climate change instead.[[103]](#page20) There are also active [educational interventions](https://en.wikipedia.org/wiki/Educational_interventions_for_first-generation_students) to implement programs and paths specific to non-traditional students, such as [first generation students.](https://en.wikipedia.org/wiki/First-generation_college_students_in_the_United_States)



Education is also becoming a commodity no longer reserved for children. Adults need it too.[[104]](#page20) Some governmental bodies, like the Finnish Innovation Fund Sitra in Finland, have even proposed compulsory lifelong education.[[105]](#page20)

**See also**



[Alternative education](https://en.wikipedia.org/wiki/Alternative_education)



[Bildung](https://en.wikipedia.org/wiki/Bildung)



[Co-teaching](https://en.wikipedia.org/wiki/Co-teaching)



[Comprehensive sexuality education](https://en.wikipedia.org/wiki/Comprehensive_sex_education) [Education for Sustainable Development](https://en.wikipedia.org/wiki/Education_for_Sustainable_Development)



[Educational technology](https://en.wikipedia.org/wiki/Educational_technology) – Use of technology in education to improve learning and teaching



[Glossary of education terms](https://en.wikipedia.org/wiki/Glossary_of_education_terms)



[Human rights education](https://en.wikipedia.org/wiki/Human_rights_education)



[Index of education articles](https://en.wikipedia.org/wiki/Index_of_education_articles)



[List of education articles by country](https://en.wikipedia.org/wiki/List_of_education_articles_by_country) [Mixed-sex education](https://en.wikipedia.org/wiki/Mixed-sex_education)



[Outline of education](https://en.wikipedia.org/wiki/Outline_of_education) – 1=Overview of and topical guide to education



[Pedagogy](https://en.wikipedia.org/wiki/Pedagogy) – Theory and practice of education



[Progressive education](https://en.wikipedia.org/wiki/Progressive_education)



[Re-education](https://en.wikipedia.org/wiki/Re-education)



[Right to education](https://en.wikipedia.org/wiki/Right_to_education)



[Sociology of education](https://en.wikipedia.org/wiki/Sociology_of_education)



[Student](https://en.wikipedia.org/wiki/Student)



[School](https://en.wikipedia.org/wiki/School) – Institution for the education of students by teachers



[School uniform](https://en.wikipedia.org/wiki/School_uniform)



[Unschooling](https://en.wikipedia.org/wiki/Unschooling)



[**Education in Islam**](https://en.wikipedia.org/wiki/Education_in_Islam)