Europe and North America Education 2030 consultation
Strasbourg, 24 October 2018

Monitoring equity and quality in education
Background Paper 4

Abstract

SDG 4 is a collective commitment to ensure equitable and inclusive quality education and to promote lifelong learning opportunities for all. Monitoring progress towards this collective commitment is key for effective policy implementation, as well as for public accountability at national, regional, and global levels. Monitoring the equity and quality dimensions of the right to education and lifelong learning provides data on patterns of exclusion from quality education and training, which, in turn, is critical to informing more effective equitable policies and strategies. Strengthening monitoring at country, regional and global levels is therefore critical to meet our collective commitments. In doing so, it is important to ensure greater coherence between monitoring frameworks at these three levels. One opportunity to seize for greater synergy between regional and global monitoring frameworks is the current formulation, by the European Union, of a new set of educational development targets, benchmarks and indicators for the period post-2020. The development of a coherent set of regional and global indicators will only facilitate and help strengthen national monitoring and reporting efforts, in particular on the two key dimension of equity and quality of education.

Section 1 provides a brief overview of some patterns of equity, and of gender equality in education in particular, and of quality of education in Europe and North America. Section 2 summarizes current monitoring efforts in Europe and North America, with an emphasis on the Education and Training 2020 (ET 2020) framework used in the European Union. This framework is then compared to the monitoring framework for Sustainable Development Goal 4 - Education 2030. Section 3 concludes the paper with recommendations for monitoring of equity and quality in education for the period from 2020 to 2030.

Guiding Questions

1. Taking into account recent demographic, social and technological changes, what are some of the national measures to strengthen the monitoring of both equity and quality in education in line with both global SDG4 and regional commitments?

2. How do countries collect, analyse and report data against multiple monitoring frameworks?
3. How can regional and international organizations take advantage of the reformulation of EU targets and benchmarks for the period post 2020, as well as the upcoming review of the SDGs at the High Level Political Forum and UN General Assembly in 2019, to strengthen coherence between global and regional frameworks?

1. Patterns of equity and quality in education in Europe and North America

According to the 2017 Education and Training Monitor (European Commission 2017), disparities in education and training remain a challenge in many countries in the European Union. This is also true for other European countries as well for North America where disparities are observed within countries related to residence, wealth, disability, migration status and other personal and household characteristics. Effective monitoring through regional and global initiatives provides data that helps identify these patterns in terms of attendance, out-of-school, and completion rates, as well as in results of learning assessments.

Educational disparities based on gender

Gender is an essential dimension of equity. Since 2000, there is virtually no gender disparity observed in participation in early childhood education in the European Union. This is also true more broadly for the entire Europe and North America region where, according to 2017 UIS data, there is no gender disparity in participation rates in organized learning one year before the official primary entry age. Similarly, according to the latest UIS estimates, there is gender parity in adult literacy rates in Europe and North America. When it comes to higher education, we observe higher female enrolment in the Europe and North America region. The 2017 Education and Training Monitoring by the European Commission, for instance, reveals gender disparities in favour of women in the European Union Member States. In Europe and North America, gross enrolment ratios for tertiary education and educational attainment levels in tertiary education (UIS 2016; ET 2017) are higher for women. It should nevertheless be recalled that these regional averages mask differences across individual countries.

Despite higher levels of female enrolment in higher education, men continue to have an advantage in terms of the employment rate of recent graduates, at least in Europe. A report by the European Commission, EACEA, and Eurydice (2018), provides further insight on participation in tertiary education

---

1. The state of equity can be examined through the ET 2020 benchmarks, especially in relation to underachievement in basic skills and early leavers from education and training (ELET). In addition, the ET 2020 benchmarks allow for analysis of equity in education through available breakdown (by sex, migrant status, and socioeconomic background where applicable. Common equity dimensions such as gender, wealth, and migration status can be monitored using parity indices, i.e. indicator 4.5.1 of the SDG 4 monitoring framework (UIS 2017a). Parity indices measure the level of disparity between two subpopulations with regard to a given indicator. For example, the gender parity index is calculated by dividing the female value of an indicator by the male value. More information on parity indices is available in the UIS online glossary at [http://uis.unesco.org/en/glossary](http://uis.unesco.org/en/glossary).

in Europe. More men than women are enrolled in doctoral programmes, while more women are enrolled in bachelor’s and especially master’s programmes. This illustrates that, in spite of their higher enrolment rates in tertiary education as a whole, women face hurdles in pursuing academic and research-oriented careers. Another important aspect of gender disparity is enrolment by field of study. While female participation tends to be higher in fields of study such as “education”, and “health and welfare”, men are predominant in fields such as “engineering, manufacturing and construction” and “information and communication technologies”.

**Disparities on the basis of ethnic and migration status**

Ethnic and migration status are also important dimensions of equity in education. The European Commission provides useful data on levels of educational attainment linked to migration status. The Early Leavers from Education and Training parity index\(^3\) linked to migration status was 1.51 in the European Union in 2017, indicating acute disparity to the disadvantage of immigrants. Similarly, the tertiary educational attainment parity index was 0.89 in 2017, indicating that migrants are less likely to have attained tertiary education than the native-born population.\(^4\)

In the United States, recent studies by the National Center for Education Statistics (NCES) based on an analysis of data from 2005 to 2015 show persistent disparities in upper secondary education enrolment rates across different racial and ethnic groups of the population of the United States. Disparity across these groups can also be observed in completion rates and in rates of early leavers from upper secondary education. It is nevertheless interesting to note that, in the United States, female upper secondary completion rates were greater than male completion rates across all racial and ethnic groups in 2014 (Musu-Gillette et al. 2017; McFarland et al. 2018).

Canada’s most recent review of implementation of the 2030 Agenda for Sustainable Development (Government of Canada 2018) highlights inequality – in particular that related to gender and indigenous status, but also to age (youth vs. elderly population), migration status, sexual identity, and disability – as a persistent challenge despite progress over the past decades. Educational attainment and learning outcomes are also lower among certain groups of the population, including those from low-income households, the indigenous population, and refugees (Statistics Canada 2017).

**Rising average levels of learning achievement**

Learning assessment data are key sources to monitor quality of education. The results of decades of studies from a range of assessments (TIMSS, PIRLS, PISA and regional assessments) reveal important findings in the Europe and North America region. The majority of countries have registered increases in average levels of student achievement, with gains in 4\(^{th}\) grade reading and mathematics, as well as in 8\(^{th}\)

---

\(^3\) Early leavers among the foreign-born population divided by early leavers among the native-born population.

\(^4\) Educational attainment of the foreign-born population divided by educational attainment of the native-born population.
grade mathematics and science. Gender gaps in student achievement are decreasing while additional gains, such as improved school environments (e.g. safer schools), better educated teachers, more support for teachers’ professional development and better curriculum coverage accompany the process (Mullis, Martin and Loveless 2016).

**Educational achievement at lower secondary level**

The results of learning assessments show that the proportion of children and adolescents not achieving minimum proficiency levels in reading and mathematics in Europe and North America is well below global proportions (UIS 2017b). For primary education, 8% of males and 6% of females in Europe and North America are not achieving minimum proficiency levels, compared to global values of 57% and 55%, respectively. At the lower secondary level, however, Europe and North America performs less well, with 29% of males and 21% of females not achieving minimum proficiency levels. To better understand whether the problem lies inside or outside of school, an analysis of out-of-school children and adolescents as a proportion of those not achieving minimum proficiency levels is useful. Of the 7% of primary-age children not learning in Europe and North America, 59% are out-of-school. This is a clear indication that in this region the problem at primary level is more a result of non-enrolment than of the low quality of education. At the lower secondary level, however, the majority (61%) of the 25% of adolescents not learning are in school, raising serious concerns about the quality of education being offered.

**Secondary completion**

Data from the World Inequality Database on Education (WIDE) show high average completion rates for lower secondary education of 97% in Europe and North America. Upper secondary completion rates are 85% for Europe and North America and 63% for the Caucasus and Central Asia. In all cases, youth from rural areas and from the poorest households are less likely to complete a given level of education than their peers from urban areas and wealthier households.

**Disparities in teacher qualification**

Differences in teacher qualifications across the Europe and North America region are common. For example, while all teachers in Poland hold a master’s degree, only 60% of teachers do so in the US, and only 25% of teachers in Spain, Ireland and Slovenia. Poor learning among most children results from a set of circumstances; children from disadvantaged backgrounds often attend lower-quality schools and perform less well within a school than their more advantaged peers.

2. Review of current monitoring frameworks for Europe and North America

---

Strengthening monitoring at country, regional and global levels is critical to meet our collective commitments. In doing so, it is important to ensure greater coherence between monitoring frameworks at regional and global levels.

The indicators in the global SDG 4 monitoring framework and those in the ET 2020 framework and other monitoring frameworks in Europe and North America aim at similar goals but are constructed differently. Regional and global aggregates for early leavers from education and training (ELET), educational attainment, adult participation in learning, and the employment rate of recent graduates, for example, the currently valid EU indicators on education and training, are not available in the UIS database of globally comparable data on SDG 4. For many SDG 4 indicators with data, only disaggregation by sex is available in the UIS database.

What are the commonalities and differences in the monitoring frameworks for ET 2020 and SDG 4?

**The Education and Training (ET) 2020 monitoring framework**

The Education and Training (ET) 2020 Framework for the European Union covers all 28 EU Member States. A comparison of ET 2020 with the global framework for SDG 4 - Education 2030 can yield important insights in view of greater complementarity between both monitoring frameworks.

In 2009, ET 2020 specified four objectives for EU countries for the period until 2020 to foster economic growth and decent employment:

1. Make lifelong learning and mobility a reality.
2. Improve the quality and efficiency of education and training.
3. Promote equity, social cohesion, and active citizenship.
4. Enhance creativity and innovation, including entrepreneurship, at all levels of education and training.

As part of this initiative, the following seven benchmarks were set and are monitored on an annual basis:

1. The rate of early leavers from education and training aged 18-24 should be below 10%.
2. At least 40% of people aged 30-34 should have completed tertiary education at the level of at least ISCED-5 level.
3. At least 95% of children (from 4 to compulsory school age) should participate in early childhood education.
4. Fewer than 15% of 15-year-olds should be under-skilled in reading, mathematics and science.
5. The share of employed graduates (aged 20-34 with at least upper secondary education attainment and having left education 1-3 years ago) should be at least 82%.
6. At least 15% of adults should participate in formal or non-formal learning.
7. At least 20% of higher education graduates and 6% of 18- to 34-year-olds with an initial vocational qualification should have spent some time studying or training abroad.

The global SDG 4 monitoring framework

By comparison, SDG 4 calls for “inclusive and equitable quality education and lifelong learning opportunities for all” by 2030. SDG 4 has 10 targets, monitored with a set of 43 indicators (see Annex 1). Because it is a global framework, SDG 4 targets and indicators were defined to be relevant for countries at all levels of development, while monitoring mechanisms in Europe and North America focus on priority issues considered of high policy relevance for the regions.

Mapping ET 2020 benchmarks to SDG 4 targets

Not all SDG 4 targets have a corresponding benchmark in the ET 2020 strategic framework (see Annex 1).

Only four SDG targets: 4.1 (primary and secondary education), 4.2 (early childhood), 4.3 (technical, vocational and tertiary education) and 4.4 (skills for employment) – can be mapped to the seven quantitative ET 2020 benchmarks. Equity (target 4.5) is covered in the ET 2020 framework through proxy indicators (underachievement in basic skills) and available breakdowns (LFS data by sex and migrant status). SDG 4 targets missing from the ET 2020 framework are 4.6 (literacy and numeracy)\(^6\), 4.7 (global citizenship), 4.a (school environment), 4.b (scholarships), and 4.c (teachers).

Monitoring education in Europe and North America beyond ET 2020 benchmarks in EU Member States include a range of other quantitative and qualitative sources, including Eurostat data, OECD studies and surveys, analyses of education systems undertaken by the Eurydice network, and other studies of national education statistics. For SDG 4 monitoring with Europe and North America, additional data sources may be required.

The current preparations by the European Union of a new set of benchmarks and indicators beyond 2020 might offer an opportunity to aim for a certain alignment between regional and global monitoring frameworks. It has to be taken into account, though, that the process of establishing new indicators and benchmarks follows the so-called Open Method of Coordination, which gives EU Member States strong influence and a final say over the process. The potential development of a coherent set of regional and global indicators could also facilitate and help strengthen national monitoring and reporting efforts, in particular on the two key dimensions of equity and quality of education.

To increase the policy impact of monitoring in Europe and North America with SDG 4, selected SDG 4 indicators may be adopted, specifically indicators related to equity, resource allocation to disadvantaged

\(^6\) This is only partially true as literacy and numeracy skills are part of the low achievers benchmark.
populations, and mainstreaming of global citizenship education and sustainable development. Efforts by European and North American countries in these areas would also support the continued development of the global indicator framework for SDG 4.

**Measures of equity in national education planning**

National education plans are the main tool for governments to implement their policy priorities in the education sector. As such, they should always include monitoring of subgroups of the population and their relative performance over time with regard to access, completion, learning outcomes and other indicators. Moreover, monitoring of equity and quality in education should go beyond disaggregation by sex and consider dimensions such as location, wealth, disability, migration status and other personal and household characteristics, to ensure that no one is left behind.

A key indicator in the global SDG monitoring framework is indicator 4.5.1, “parity indices (female/male, rural/urban, bottom/top wealth quintiles 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”.

Other measures of equity can also be considered, for example the Gini coefficient, which can be used to measure the distribution of years of schooling in a population (UIS 2018). Parity indices and similar measures can be integrated in national education plans and could be applied to all levels of education, from pre-primary to tertiary education and adult learning. The use of appropriate indicators to track equity and quality in education is a prerequisite for identification of gaps and enables effective planning of interventions to reduce those gaps.

**3. Recommendations**

**Recommendation 1: Using more disaggregated data to monitor educational participation and outcomes for newly excluded groups**

Although education systems in Europe and North America are overall more equitable than those in other regions, certain groups of the population are disadvantaged. The recent influx of migrants and refugees to Europe and North America is likely to increase the extent of disparities. Accordingly, we call on Member States to address changing demands on the collection, analysis and use of relevant disaggregated data on newly excluded groups.

**Recommendation 2: Strengthen coherence between global SDG4 and regional monitoring frameworks**

Taking full advantage of the upcoming 2019 review of SDG4 at HLPF and of the SDGs more generally, as well as the current formulation of a new generation of EU targets and benchmarks for 2030, UNESCO
and regional partners are called on to ensure greater coherence between the different monitoring frameworks and reporting processes.

References


### Annex 1: Mapping of ET 2020 benchmarks to SDG 4 targets

<table>
<thead>
<tr>
<th>SDG 4 targets</th>
<th>SDG 4 indicators</th>
<th>ET 2020 benchmarks</th>
<th>ET 2020 benchmarks: monitoring indicators</th>
</tr>
</thead>
</table>
| **4.1. Primary and secondary education:** By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes | Learning  
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, by sex  
4.1.2 Administration of a nationally-representative learning assessment (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education | Underachievement in reading, math and science | Low achievers in reading, maths and science: Share of 15-year-old pupils who are below proficiency level 2 on the PISA scales for reading, maths and science |
| Completion          | 4.1.3 Gross intake ratio to the last grade (primary education, lower secondary education)  
4.1.4 Completion rate (primary education, lower secondary education, upper secondary education) | Early leavers from education and training | % of the population aged 18-24 with at most lower secondary education and not in further education or training |
| Participation       | 4.1.5 Out-of-school rate (primary education, lower secondary education, upper secondary education)  
4.1.6 Percentage of children over-age for grade (primary education, lower secondary education) | | |
| Provision           | 4.1.7 Number of years of (a) free and (b) compulsory primary and secondary education guaranteed in legal frameworks | | |
| **4.2 Early Childhood:** 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 | Readiness for primary school  
4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex  
4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex | Early childhood education and care | ECE participation rate: % of the age group between 4 years old and the starting age of compulsory education |
| Readiness for primary school  
4.2.3 Percentage of children under 5 years experiencing positive and stimulating home learning environments | | | |
<table>
<thead>
<tr>
<th>Panel</th>
<th>4.2.4 Gross early childhood education enrolment ratio in (a) pre-primary education and (b) early childhood educational development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision</td>
<td>4.2.5 Number of years of (a) free and (b) compulsory pre-primary education guaranteed in legal frameworks</td>
</tr>
<tr>
<td><strong>4.3 TVET and Higher Education:</strong> By 2030, ensure equal access for all women and men to affordable quality technical, vocational and tertiary education, including university</td>
<td>Participation</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.4 Skills for work:</strong> 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</td>
<td>Skills</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.5 Equity:</strong> 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.</td>
<td>Policy</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>4.5.3</td>
<td>Extent to which explicit formula-based policies reallocate education resources to disadvantaged populations</td>
</tr>
<tr>
<td>4.5.4</td>
<td>Education expenditure per student by level of education and source of funding</td>
</tr>
<tr>
<td>4.5.5</td>
<td>Percentage of total aid to education allocated to least developed countries</td>
</tr>
</tbody>
</table>

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

| Skills | 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 |
| Participation | 4.6.2 Youth/adult literacy rate |

**4.7 Global citizenship:** 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.

| Provision | 4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment |
| Knowledge | 4.7.2 Percentage of schools that provide life skills-based HIV and sexuality education |
| Knowledge | 4.7.3 Extent to which the framework on the World Programme on Human Rights Education is implemented nationally (as per the UNGA Resolution 59/113) |
| Knowledge | 4.7.4 Percentage of students by age group (or education level) showing adequate understanding of issues relating to global citizenship and sustainability |
| Knowledge | 4.7.5 Percentage of 15-year-old students showing proficiency in knowledge of environmental science and geoscience |
### 4.a School environment: Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.

#### Resources

- **4.a.1**
  - Proportion of schools with access to: (a) electricity; (b) Internet for pedagogical purposes; and (c) computers for pedagogical purposes
  - Proportion of schools with access to: (d) adapted infrastructure and materials for students with disabilities
  - Proportion of schools with access to: (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)

#### Environment

- **4.a.2** Percentage of students experiencing bullying, corporal punishment, harassment, violence, sexual discrimination and abuse
- **4.a.3** Number of attacks on students, personnel and institutions

### 4.b Scholarships: 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

#### Numbers

- **4.b.1** Volume of official development assistance flows for scholarships by sector and type of study
- **4.b.2** Number of higher education scholarships awarded by beneficiary country

### 4.c Teachers: 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.

#### Trained

- **4.c.1** Proportion of teachers in: (a) pre-primary education; (b) primary education; (c) lower secondary education; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g., pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country, by sex

- **4.c.2** Pupil-trained teacher ratio by education level

#### Qualified

- **4.c.3** Percentage of teachers qualified according to national standards by education level and type of institution

- **4.c.4** Pupil-qualified teacher ratio by education level
<table>
<thead>
<tr>
<th>Motivated</th>
<th>4.c.5 Average teacher salary relative to other professions requiring a comparable level of qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.c.6 Teacher attrition rate by education level</td>
</tr>
<tr>
<td>Supported</td>
<td>4.c.7 Percentage of teachers who received in-service training in the last 12 months by type of training</td>
</tr>
</tbody>
</table>