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TO MONITOR
LEARNING

Measurement strategy for SDG Target 4.7

Proposal by GAML Task Force 4.7

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SDG 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.

Target 4.7 is one of the most important targets in terms of linkages with other SDGs and it is important to align measurement for target 4.7 related targets such as 12.8: "By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature" and 13.3: "Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning".

The current global indicator for this target is: "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." The existing reporting for the global indicator solely depends on the mechanism of the UNESCO 1974 Recommendation¹ concerning Education for International Understanding, Co-operation and Peace and Education relating to Human Rights and Fundamental Freedoms. UNESCO is currently in the process of finalizing the measurement methodology for the global indicator 4.7.1 using the most recent round of 1974 recommendation data collection in 2016.

Target 4.7 includes five thematic indicators (including the Global Indicator). However, considering the fact that the current document will only focus on outcome indicators (learning assessment), the ongoing efforts for the measurement and monitoring of the 4.7.1 global indicator and 4.7.2², 4.7.3³ thematic indicators are not the topic of this document, as they are based on the concept of "provision". The current document is specifically looking into the measurement strategy for the two thematic indicators which are broadly based around learning outcomes;

- 4.7.4: Percentage of students by age group (or education level) showing adequate understanding of issues relating to global citizenship and sustainability; and
- 4.7.5: Percentage of 15-year-old students showing proficiency in knowledge of environmental science and geoscience.

Both thematic indicators cover learning outcomes achieved as a result of the educational inputs presented under the global indicator. This strategy elaborates on measurement solutions to address the challenges of monitoring indicators 4.7.4 and 4.7.5.

It should be noted that both indicators were originally inspired by existing data sources and international large-scale assessments, the IEA's International Civic and Citizenship Education

¹ Adopted in 1974 by the 18th UNESCO General Conference. Member States have the obligation to report their progress towards 1974 recommendation every four years.

² Thematic Indicator 28 (4.7.2): "Percentage of schools that provide life skills-based HIV and sexuality education."

³ Thematic Indicator 29 (4.7.3): "Extent to which the framework on the World Programme on Human Rights Education is implemented nationally".

Study (ICCS) in the case of 4.7.4 and the OECD's Programme for International Student Assessment (PISA) for 4.7.5, in particular the aspect of environmental science included in the 2006 cycle.

***Note1: While this strategy remains as a living document to be updated if and when necessary, at this point of time and in absence of any mapping exercises to identify available data sources with reasonable conceptual framework and coverage on the key topics of geoscience and environmental science, the current version of the strategy is limited to the thematic indicator 4.7.4.

Key challenges

Conceptual Issues

The main issue at the conceptual level is that of agreement on the definitions and dimensions of the constructs of Global Citizenship Education (GCED) and Education for Sustainable Development (ESD) to be considered in the measurement of indicator 4.7.4.

With the recognition that the strategy will remain a living document and flexible for future revisions and in consideration of all the existing limitations to clearly define GCED and ESD, for the purpose of this measurement strategy, GCED and ESD measurement components will be considered as below:

GCED is tentatively defined as any educational effort that aims to encourage the acquisition of skills, values, attitudes and behaviors empower learners to assume active roles to face and resolve global challenges and to become proactive contributors to a more peaceful, tolerant, inclusive and secure world. GCED nurtures the following three core dimensions of learning:

- The cognitive – to acquire knowledge, understanding and critical thinking about global issues and the interconnectedness/inter-dependency of countries and different populations.
- The socio-emotional – to have a sense of belonging to a common humanity, sharing values and responsibilities, sharing empathy, solidarity and respect for differences and diversity.
- The behavioral – to act responsibly at local, national and global levels for a more peaceful and sustainable world.

ESD is tentatively defined as any educational efforts that equip learners with the key learning components of:

- Knowledge (on ESD topics of sustainable lifestyles/sustainable ways of life, climate change, biodiversity, and the greening of the economy),
- Skills,
- Values ,
- Engagement,
- Attitudes and,
- Experiences

to address social, environmental and economic challenges of the 21st century through integrating critical issues such as climate change, biodiversity, disaster risk reduction (DRR), and sustainable consumption and production (SCP).

To facilitate the measurement efforts, an initial breakdown of measurement domains (knowledge, value, skills, engagement, and attitude) together with their respective content dimensions covering operationalized aspects under each of the ESD and GCED topics is provided in Annex1 (To be developed). This list is an inclusive effort to cover as many terms, understandings and interpretations on GCED and ESD as possible, to moderate the challenge towards country level understandings based on cultural, traditional or other contextual lenses affecting the perceptions.

Considering the wide range of established and some relatively new concepts covered under the thematic indicator 4.7.4 combined with the absence of specific processes to collect and analyze related data for the indicator, it is certainly one of the most challenging targets to measure and monitor progress on. Measuring real life skills and competencies such as empathy and creativity that are needed to promote sustainable development is vastly difficult and there are some debates on whether we should assess “non-cognitive”⁴ attributes/achievements in a standardized way at all. In addition, the interpretation and understanding of the concepts under target 4.7.4 are highly influenced by different cultural understanding across countries.

Other challenges relate to: the process of establishing mechanisms for mapping diverse content domain coverage, developing a relevant learning scale, streamlining varied data quality, establishing a coherent reporting metric, building country capacity to produce needed data and managing financial and human resource allocation.

Summarizing, the key questions to ask are:

- How can the “adequate understanding”, “proficiency” and performance levels be defined in the context of 4.7?
- Can heterogeneity in data collection and processing be effectively managed, quality controlled and evaluated for global monitoring and reporting?
- **Is comparability for global reporting relevant in the two learning-related indicators?**
- How can the best method of reporting be defined?
- What wide-range learning scale can be used for diverse levels of learning and for mapping skills?
- What kinds of guidelines are needed for data analysis and policymaking?
- For indicator 4.7.4, who should be assessed?

***NOTE2: This question not only refers to age group vs. education level, but also to considering at which levels the data should be collected? Grade 8 like ICCS? Or at multiple grade levels?

*** NOTE3: This question remains valid for further review. However, as an approach to match grade (or ISCED) level based curriculum and school organization and in view of the cyclic IEA ICCS reference data source for measurement, the target group will be school-based youth. In addition, through this approach, a wider data collection can include information on home, community, peer and school contexts, the teacher context and classroom-based opportunities to learn, which provides the opportunity to connect different aspects for an in-depth analysis to what students report). This does not preclude collection in older age cohorts, the general public or out-of-school populations. However, formal school based education provides for the most obvious leverage for policy.

⁴ The usage of the term “non-cognitive” is discouraged by TF members due to the ambiguities associated with this term.

- How often should the data be collected and how can we harmonize information from school-based and household based assessments? What are the costs of data collection? And what is the acceptable level of error and bias in reporting?
- How can the cultural differences and various understandings at country level on ESD and GCED be tackled in the process of measurement.

Reporting Thresholds

The relevant content of ESD and GCED focus on both covering and other list of skills, values and attitudes aspects of learning for which measuring “adequate understanding” may not be a relevant measurement criterion. Even for the cognitive component, the extent of variation in the definition of “showing adequate understanding” in different countries represents a significant challenge for the establishment of benchmark levels and cut scores that can be communicated well globally. For the non-cognitive component, the challenge is to set a benchmark that identifies the levels (on some continuum, from low to high) in which a high level might be associated with social justice and transformation orientations while a low level refers to basic understanding or engagement in a more limited way.

Operational Framework

The primary operational issue is the identification of the most relevant and already operational data collection tool with accepted definitions and reasonable coverage for the regular collection and analysis of information on GCED and ESD.

This identification is an ongoing process for which an initial step has been taken through a review of the available data collection/analysis efforts, mapping of definitions and comparison on data coverage [Measuring Global Citizenship Education a Collection of Practices and Tools⁵].

Noting that the toolkit collated by Brookings deliberately excluded large-scale assessments and instead focused on tools for schools, classrooms, communities and individuals, also outside of schools, UNESCO is in the process of launching additional studies to enrich the references for mapping exercises concerning ESD and GCED.

As a result and at this point of time, for the purpose of this strategy document and with the recognition of limitations in terms of definition and coverage, IEA ICCS has been selected as the relevant program and platform for the measurement and monitoring of thematic indicator 4.7.4. Exchanges with the IEA confirmed that the cognitive test as well as the areas of attitudes and engagement are planned to be augmented with measures relating to global aspects of citizenship.

Mapping the threshold topic to the selected data source of IEA ICCS, it should be noted that ICCS has levels on the civic knowledge scale (established in 2009, extended for 2016). Level 2 (2009, called level B in 2016) could be seen as a possible minimum level, where students demonstrate a broader familiarity with concepts and notions. In each case, these levels are the second highest (of 3 in 2009, four in 2016). However, a standard setting beyond describing the hierarchical continuum/scale has not yet been completed for ICCS in light of the 4.7 target. A key issue will be to unpack whether 4.7 is meant to be taken as a transformational agenda and hence, levels of understanding and engagement towards e.g. social justice are meant, in which case a higher level

⁵Download link: https://www.brookings.edu/wp-content/uploads/2017/04/global_20170411_measuring-global-citizenship.pdf

could be the target. Pragmatically, and reviewing proportions of students at or above level 2 (2009) or B (2016), these could be a starting point.

Once released (assumed for end of 2019), the PISA 2018 cross-curricular domain of “global competency” might add additional insights but it is assumed that the country coverage will be limited and this domain will not be repeated in future cycles.

Work program for the measurement of indicators 4.7.4

Since global reporting is envisaged, school or subnational measurements are possible but these cannot be standardized or equated without additional efforts.

- Existing international survey programmes such as ICCS and PISA
- New International comparative programmes
- National studies
- Equating and projecting regional assessments on international metrics using bridging exercises (such as those discussed under the “Rosetta stone” strategy in the GAML cross-national assessment working groups).

Also, in order to further inform the development of work program for indicator 4.7.4, the Task Force will use its networking and convening capacity to:

- identify what have been collected in term of content coverage in national and cross-national assessment;
- clarify the definition of “issues related to sustainable development and global citizenship” and what it means “to show adequate understanding”;
- review the content of the IEA ICCS frameworks, instruments and reports, GCED assessment tools and ESD assessment tools to see how it could be improved or combined to collect relevant and target information;
- consider accessibility options in case self-reported survey modes are confounding reading ability and domain related aspects in locations where the former is low (e.g. through interviewers, computer/tablet-based collection or other means of voice-over modes such as CDs);
- issues on the alignment, linking of cross-national assessment for reporting;
- discuss with the larger GAML network how country coverage can be extended in terms of key obstacles such as funding and capacity;
- set-up criteria for monitoring and reporting due to difference in quality in the national and cross-national assessment data;
- develop interim reporting strategy while the reporting scale, definition of adequate understanding, tools and processes are still under development.
- consider recommending to the GAML Secretariat the commissioning of paper and developing of tools when deemed necessary to forward the agenda of indicator development

