



Towards indicators for a post-2015 education framework

Post-2015 Education Indicators Technical
Advisory Group of the EFA Steering Committee

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The Technical Advisory Group for post-2015 education indicators was established to provide technical guidance to the Education for All Steering Committee (EFA SC). It is composed of experts from the EFA Global Monitoring Report, the OECD, UNESCO Institute for Statistics, UNESCO, UNICEF and the World Bank. Its role is to provide feedback on the proposed post-2015 targets, to develop recommendations for indicators and to set out a measurement agenda that meets the demands of the new education and development frameworks.

1. Introduction

Building on the document “Monitoring the Post-2015 Education Targets: A Note on Indicators”, the purpose of this note is to provide background information on education indicators related to the seven education targets proposed by the Education for All (EFA) Steering Committee in its Joint Proposal and endorsed in the Muscat Agreement in May 2014. The note aims to inform discussions at regional EFA meetings in 2014 and early 2015, which will review proposed education targets in advance of the meeting in the Republic of Korea in May 2015 where the new post-2015 Global Education Agenda will be adopted.

Setting measurable, actionable targets is an important element of building the post-2015 global education agenda. Targets that are easily understood, clearly defined, and that can be tracked with existing indicators over time help to promote change at the national and global levels. In addition, targets can inspire action in new areas for which there are currently no indicators. This document: 1) sets out key issues for consideration in relation to the overall monitoring approach; 2) discusses the proposed education targets and highlights the aspects that can and should be measured; 3) identifies the relevant data currently available and key measurement challenges that must be addressed to measure the full intent of the proposed post-2015 education agenda.

2. Technically robust and globally comparable indicators

Data used to create the indicators needed to globally track the targets should ideally meet a range of standards that ensure technical strength, feasibility, frequency of reporting, cross-national comparability and availability over time. These standards entail a range of issues, notably:

- The construct to be measured must be valid and reliable across all countries, such that the indicator used for this purpose has the same meaning and significance in all settings, ideally measured by a similar question or item. The more specific and concrete the indicator, the more likely this will be the case. For example, it is relatively straightforward to track enrolment rates globally, but many indicators related to education outcomes, such as skills for work, might vary based on the country, cultural context or other factors. Measuring constructs that vary across settings pose challenges for global tracking, as the most effective measures may not be the same in all places. For complex constructs, it may be possible to measure some elements globally, while others may be best measured at the national or regional level, with freedom to adapt constructs to local contexts.
- The data must be collected frequently and in all or nearly all countries, representing the entire population. Global tracking is most effective when the data are collected on a regular basis (though not necessarily annually) and all or nearly all countries routinely collect the data in a manner that ensures representation across the population, including, for example, children and youth who are out of school. Low coverage of data constrains the ability to track changes over time.
- It must be feasible and cost-effective to collect data over time. For example, to produce indicators on the quality of early childhood programmes, it is possible to collect some basic underlying data but accurate measurement requires observations by trained staff. So it may be more feasible for countries to invest in this type of assessment as part of an on-going monitoring and evaluation system, rather than including quality observations as part of a system for global tracking.

While emphasis is often placed on data required for global monitoring, national and regional tracking are essential and play an important role in determining the extent to which a construct can be practically measured in a consistent way across countries. National and regional tracking serve as the basis for global tracking over time. The standards required for global tracking may not be met or feasible across all areas of the proposed targets.

3. Key issues and challenges

As part of the post-2015 global education agenda, the international community will need to address many *existing* measurement challenges. For example, while considerable progress has been made in extending the coverage of input indicators, such as pupil-teacher ratios, and output indicators, such as completion rates, there are still gaps. However, the post-2015 agenda also presents two *new* issues – in the areas of learning outcomes and equity that require careful attention and considerable investment.

Learning outcomes

The first five of the seven targets proposed by the Education for All Steering Committee focus on learning outcomes, i.e. the effect of education on individual children, young people and adults. This is a shift from previous global education targets, such as those in the Millennium Development Goals (MDGs), which narrowly focused on ensuring access, participation and completion in formal education systems. The proposed post-2015 education targets highlight that enrolment and participation (e.g. in early childhood development programmes, formal and non-formal schooling or adult education opportunities) are the *means* to attain *results* and learning outcomes at every stage (e.g. school preparedness for young children; academic competencies for children in basic education; functional literacy and numeracy skills and skills for work, global citizenship and sustainable development for youth and adults).

The emphasis on the measurement of learning outcomes at all levels of education will require global agreement on certain existing indicators and, in several cases, the development of new indicators. There are three immediate challenges:

- **First, there needs to be agreement on key concepts.**
To achieve global comparability of learning outcomes, a clearly-articulated and shared understanding of desirable results for children, young people and adults is required, as well as agreement on whether such learning results vary based on context:
 - What does it mean for a young child to be ready for school?
 - What is a minimum learning standard that should be achieved by the end of basic education?
 - What level of literacy and numeracy is required to fully participate in society?
 - What knowledge and skills are required for accessing decent work?
 - What knowledge, skills, values and attitudes characterise global citizens?

- **Second, once a concept is clarified and agreed, measurement tools must be aligned, developed and approved by consensus.**
Various outcome measures are at different stages of development.
 - Some are close to global comparability: all that is needed is a mapping of how concepts are already measured and how they could be made more consistent (as, for example, in the case of reading and mathematics outcomes in primary and lower secondary education).
 - Others are very far from global comparability: for example, it is not clear what skills for work or global citizenship (other than basic cognitive skills of literacy and numeracy) are equally relevant for people around the world. Some measurement tools will therefore need to be developed and validated.

- **Third, there is the need for global consensus concerning the underlying components of a universal monitoring framework and mechanisms that facilitate regular reporting on the targets and indicators.**

In some cases, the most efficient path would be the development of fit-for-purpose tools, such as flexible modules that can be used in different ways. For example, instead of a potentially resource-intensive national literacy survey, it may be better to consider “lighter” tools to help establish minimum levels of competencies that can be used in national surveys.

- Alternatively, the international community could support expansion of existing surveys that are critical for global monitoring but currently only cover a minority of countries.
- An important challenge is that outcome measures are needed for all children, young people and adults – and not just those in educational institutions. This will require household surveys or other means for collecting data from individuals who are not in school.

Overall, it is possible to measure outputs and some outcomes for all of the proposed targets at the national level. However, further development work is needed to establish the foundations and baselines required for monitoring at regional and global levels. At present, there is little information on important learning outcomes in non-cognitive skills and other areas extending beyond reading and mathematics skills. Further effort is needed to refine definitions, develop tools and improve coverage for these outcomes.

Equity

The seven proposed targets call for an explicit focus on equity in the post-2015 global education agenda. In response, monitoring indicators should aim to capture not just average trends but also how these trends may differ between population groups defined by group and individual characteristics, such as sex, wealth, location, ethnicity, language, or disability (and combinations of these characteristics). The focus on equity raises the following issues:

- Global monitoring of inequalities has so far mainly captured differences *by sex*. This reflects the focus on gender inequalities in the MDGs, which was also driven by the availability of data for most countries (enrolment and literacy rate indicators based on administrative data and censuses are disaggregated by sex).
- Some of these sources allow other dimensions to be taken into account. However, looking systematically at other potential dimensions of disadvantage requires disaggregated data on individuals, which can be administrative but is often more feasible in developing countries through household or school-level surveys. The UIS, through its Data Centre and MDG reporting, and the EFA Global Monitoring Report have used these surveys to highlight inequalities between groups defined in terms of wealth, location, and ethnicity or language.
- The parameters of interest for measuring equity are generally country and context specific (e.g. comparing educational attainment between the majority and minority linguistic groups or between different provinces). But some individual characteristics can be compared across countries. Global monitoring of equity could therefore focus on these characteristics, with priority given to the disaggregation of indicators by sex, urban/rural location, and a measure of socioeconomic status.

Summary indicators, such as a relative indicator (parity, i.e. the ratio of an indicator’s value between two groups) or an absolute indicator (range, i.e. the gap in the indicator’s value between two groups) would be useful starting points to track changes over time.

Overall, it is possible in principle to introduce a distributional dimension for all targets and proposed indicators, provided that a number of challenges are addressed (see following section). Annex A shows how the proposed indicators could be potentially disaggregated by key individual and household characteristics. There is currently little information on other important individual characteristics of interest, notably persons with disabilities, migrants/refugees, linguistic minorities, etc. Further effort is needed to refine definitions, develop tools and improve coverage.

4. Next steps

A broader roadmap or strategy is needed to establish an agenda to work with national partners to raise demand for data use, improve data systems, strengthen technical expertise and invest in the longer-term methodological development required to implement national and cross-national standards and best practices. This will require a multi-stakeholder effort to help align and guide the activities and ambitions of a wide range of global, regional and national actors, as in the case of similar initiatives to support economic or health data. Coordinated, aligned efforts to improve data currently do not exist in the same way for the education sector as for other sectors.

Learning outcomes

As noted above, work is needed to further define many of the proposed outcome measures. The most immediate steps include the following:

- Coordination and syntheses of new indicator development, especially those that are relevant for children, youth or adults at a particular age. Certain outcomes related to global citizenship education, for example, could be potentially explored in assessments that capture literacy and acquisition of basic academic skills among youth.
- Using existing measures and items to create a common metric of reading and numeracy as a first fit-for-purpose mapping of learning outcomes that spans all education levels, to allow for global comparisons within the context of national systems. Work is underway by the UIS, the Australian Council for Education Research and other partners to create a common scale of learning outcomes in the domains of literacy and numeracy that would place items from a range of surveys within a single scale, which is a first step towards facilitating comparisons between countries. Ideally, this would lead to a global set of items that could be integrated into national assessments to facilitate more robust measurement. Such a metric would probably be less workable for other areas of learning, such as social-emotional development, which may depend more on context. However, the many commonalities in the pathways to competencies in reading and numeracy create a real opportunity for generating global comparisons using existing data.
- Although attention is often placed on global surveys, investment in national large-scale assessment systems and surveys can also help to build the necessary capacity for reliable tracking of learning outcomes by providing the basis for the development of comparable items to track at the regional and global levels.

Equity

Once the concepts have been defined and the tools to globally monitor education outputs and outcomes have been developed, the main challenges for the international community in ensuring that equity is captured are the following:

- Ensuring accurate data collection on equity also means expanding the coverage of existing surveys, identifying ways to locate hard-to-reach populations and capturing information on access, participation and equivalent learning in non-formal settings are essential to providing a full picture of the situation.
- Countries should have surveys that capture the relevant education inputs, outputs and outcomes on a regular basis and make the survey datasets accessible. While some indicators can be captured by existing international surveys, national surveys will also be needed to ensure sufficient levels of coverage. For that reason, a stocktaking exercise would help to assess how well different national surveys ask the relevant questions in comparable ways. Further methodological consensus would be required on defining socioeconomic status and other aspects of disadvantage for the purposes of globally-comparable measurement. Standards will need to be set as to how surveys can be used for global monitoring purposes.
- Consensus will be needed on how indicators will be estimated and reported and on how international statistical bodies and national statistical agencies can work together to create the mechanisms needed to ensure the use of common methodologies and definitions and the coordination of analysis and reporting.

5. Review of the proposed targets

5.1 Target 1

By 2030, at least x% of girls and boys are ready for primary school through participation in quality early childhood care and education, including at least one year of free and compulsory pre-primary education, with particular attention to gender equality and the most marginalised.

What should be measured?

Key concepts to measure in this target include:

- Percentage of children **ready for primary school**, defined by the achievement of age-appropriate learning and development across all domains, including health and nutrition, especially between the ages of 4 and 6 years but beginning at birth;
- **Participation** in early childhood care and education (ECCE), including access to (formal/informal) early childhood development programmes from birth to the start of formal schooling;
- **Quality** of ECCE programmes; and
- **Participation** in at least one year of free and compulsory pre-primary education.

There is general consensus that early childhood development should be measured across health, nutrition, education and social protection and reflect children's development across both cognitive and non-cognitive domains, as both contribute to children's long-term well-being and school success.

What is available now?

There are indicators available now to track inputs, outputs and outcomes related to Target 1, but the data are limited in scope and do not comprehensively align with the intent of Target 1. Available outcome indicators include reliable and widely-reported indicators of children's health (under-five mortality rates) and nutrition (under-five stunting), both of which are critical for children's school success. There is also some information available on children's development and learning before primary school, including a recent effort by UNICEF to collect data for an *Early Childhood Development Index*, including information on children's learning and development at ages 3 and 4 years. Such data were collected in about 60 countries to date. There are a number of technically-sound national and regional measures of school readiness.

Consistent information on access to ECCE is available for a limited range of ECCE settings, with the most reliable information available on access to formal pre-primary settings. Administrative data on enrolment in formal pre-primary settings are available for about 165 countries. More comprehensive but less precise data on participation in a range of different types of ECCE for 3- and 4-year-olds are estimated through MICS household surveys.

What are the main measurement challenges?

More consistent information on learning outcomes and participation in ECCE for children from birth to the start of formal schooling is needed.

- While important, formal pre-primary settings are just one form of ECCE; community-based preschools, home-visiting programmes, and parenting support have all been shown to be effective routes for improving children's learning and development, and therefore, access to a range of ECCE programmes should be included in tracking Target 1.
- While some access information exists, no data are presently available on the intensity of participation in ECCE, which makes it difficult to know whether children have had enough exposure to lead to positive effects on learning and development.
- Information on quality in ECCE is largely not available, with the exception of child-teacher ratios, which are collected in early childhood education programmes through administrative data but are not a consistent marker of quality in all countries.
- The presence of ECCE in legal frameworks of education is readily available for most countries, although it should be noted that the presence of a legal right to education provision does not guarantee its implementation.

To fully track Target 1, more consistently-collected and reliable information on both access and quality of ECCE and children’s development and learning is required. First and foremost, children’s development and learning from birth to 8 years of age should be tracked through a common module in national, regional and global surveys. Participation in quality ECCE will require a more thorough definition of the various types of ECCE programmes that should be tracked, information on how long and for how many hours a day children attend ECCE programmes, and agreement on a common set of indicators of quality in ECCE programmes that can be collected at the national level.

Indicator	Alignment with concept	Data availability
Readiness for primary school		
Early Childhood Development Index	Moderate: ECDI may not capture range of readiness in some contexts.	ECDI data collected through MICS for about 30 developing countries.
Under-five mortality rate (%)	High: Mortality rates are a reliable indicator of the overall health and well-being of young children.	U5MR data collected through household surveys (DHS, MICS, national household surveys etc.). Estimates for 2012 available for nearly all countries.
Under-five stunting rate (%)	High: Stunting is strongly associated with learning outcomes throughout the school years.	U5SR data collected through household surveys (DHS, MICS, national household surveys etc.). Estimates available for about 85 developing countries (at least once in the period 2008-2012).
Participation in early childhood care and education		
Participation rate in organized learning (3- to 4-year-olds)	Moderate: Participation is relatively well-covered in pre-primary education but less so in other programmes. Even in household surveys participation in other ECCE programmes is not well-understood by respondents and may be mis-reported.	Data on enrolment by age collected through household surveys (e.g. MICS and some DHS, as well as national household surveys). Indicator currently available from MICS/DHS for approximately 60 developing countries (countries participating at least once in the period 2005-2012). DHS does not systematically collect data on pre-primary education.
Gross pre-primary enrolment ratio (%)	Moderate: Participation in pre-primary education is relatively well-covered.	Administrative data on enrolment in pre-primary by sex are collected annually in most countries. Indicator estimated to be available for at least 165 countries. (at least once in the period 2008-2012).
Quality of early childhood care and education		
Child-educator ratio / Pupil-teacher ratio	Low: Indicator not necessarily predictive of quality or child outcomes based on existing research.	Administrative data on teachers and pupils in pre-primary education are collected annually in most countries. Ratios may be over-estimated if children typically attend for less than the working day of educators. PTR in pre-primary education estimated to be available for at least 120 countries (at least once in the period 2008-2012). Data on staff in other ECCE programmes may not be available in many countries. It is difficult to distinguish teachers from other staff in such settings. The number of countries for which child-educator ratios for other types of ECCE are available is unknown.
One year of free and compulsory pre-primary		
Countries with one year of free and compulsory pre-primary education in legal/institutional frameworks	Moderate/Low: Legal frameworks are not always implemented in practice. Where they are, the degree of alignment would be higher.	A small but growing number of countries have made some or all pre-primary education compulsory and tuition-free. However, the actual number of countries is unknown. For the indicator, it may be necessary to separate ‘free’ and ‘compulsory’ components in order to better monitor changes.

5.2 Target 2

By 2030, all girls and boys complete free and compulsory quality basic education of at least nine years and achieve relevant learning outcomes, with particular attention to gender equality and the most marginalised.

What should be measured?

The key concepts covered by this target are:

- **Achievement of relevant learning outcomes** for primary and lower secondary education;
- **Access to and participation** in primary and lower secondary education;
- **Completion of primary and lower secondary education** of at least nine years’ duration;
- **Quality** of basic education; and
- **Guarantee of free and compulsory** education of at least nine years’ duration.

What is available now?

In the last 20 years, considerable efforts have been made to develop and expand assessments of student learning, and many countries are now measuring aspects of the achievement of relevant learning outcomes by girls and boys, including those in marginalised groups, from primary and lower secondary education. In particular, some countries are directly assessing reading and mathematics at the end of Grade 2, although most are doing so at the end of primary education through national systems and regional surveys, such as PIRLS LLECE¹, PASEC² and SACMEQ³. These two domains of learning, as well as science, are also being assessed at the end of lower secondary education through national systems and international surveys, such as TIMSS^{4, 5} and PISA⁶.

Countries are generally already well-placed to measure the access, participation and, at least according to national definitions, completion concepts of Target 2. Such indicators are often seen as indirect measures of learning outcomes but are easier and cheaper to measure both nationally and internationally and are therefore more widely and frequently available in countries.

Most countries already collect sufficient administrative data on an annual basis (via school censuses and similar surveys) to measure **access** to and **participation** in the relevant levels of education for both girls and boys. Such indicators – gross and net intake and enrolment rates – also require up-to-date estimates of the population of the relevant age groups for a given level of education or age of entry, data which are also available annually for many countries with the exception of small states or those in situations of crisis. In addition to disaggregation by sex, administrative sources often allow for data by regions or districts within countries, provided the relevant population estimates are available at the sub-national level.

Many countries also conduct periodic household surveys – at least once every three to five years – from which access and participation rates can be measured directly both by sex and, usually, by region within countries. Sample sizes or sampling methods/structures may not always be sufficient to allow for disaggregation to lower levels (e.g. districts, municipalities) within countries. However, household surveys, unlike administrative sources, can also provide estimates of inequities in these measures between different population sub-groups – in particular by levels of household wealth (based on information on household assets) and location (urban/rural). Some national household surveys allow for the measurement of inequities between ethnic or linguistic groups or amongst other marginalised sub-groups such as those with disabilities – but this is generally not the norm.

Where countries are able to measure access to and participation in education, they can also turn the focus on those who are excluded from education or are at risk of being excluded. This is particularly important from a policy point of view as the magnitude of exclusion and the reasons for lack of access or participation will determine the most appropriate policies to reverse the situation. It is also increasingly important to focus on those who are excluded the closer a country comes to attaining a given target, in order to reach children often facing the greatest disadvantage.

Both sources – administrative data and surveys – can usually provide estimates of **completion** rates of relevant cycles of education (e.g. primary, lower secondary) in a given country based on similar breakdowns for access and participation indicators. The measurement of completion rates for given grades or years of education is often more complex.

¹ *Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación* (Latin American Laboratory for the Assessment of the Quality of Education).

² *Programme d'Analyse des Systèmes Éducatifs* de la CONFEMEN (Programme of Analysis of Education Systems of the CONFEMEN).

³ The Southern and Eastern Africa Consortium for Monitoring Educational Quality.

⁴ Trends in International Mathematics and Science Study.

⁵ Progress in International Reading Literacy Study.

⁶ Programme for International Student Assessment.

It is also important to consider the quality and duration of the education provided. Nearly all countries in the world have laws specifying a certain number of **years of education** (measured in terms of the ages of pupils or the grades or years of education, or both) as “compulsory” for children and young people. In more than two-thirds of countries, compulsory education lasts at least nine years (after pre-primary). Countries at all stages of development are introducing or extending the duration of compulsory education. At the same time, countries are increasingly ensuring that compulsory education is free from tuition fees (at least in public schools), although globally the number of countries that provide both free and compulsory education is not yet fully known. Nevertheless, all countries are theoretically able to report on their national – and where appropriate sub-national – laws regarding access to education and on the actions being taken to ensure that these laws are implemented in practice.

What are the main measurement challenges?

While access and participation are relatively easy concepts to measure in cross-nationally comparable ways, the measurement of completion can be problematic as it is much more dependent on the actual curricula taught in schools and, often, on the processes for transferring between levels of education, which can vary greatly across countries. Therefore, cross-nationally comparable indicators of completion are usually based on proxy measures (e.g. first-time participation in a given grade or year of education or educational attainment rates of children and young people in a given age range) than direct measures of successful completion.

While **quality of education** is a more difficult concept to measure, indicators such as pupil-teacher ratios, teacher qualifications, and access to learning materials can provide a perspective on the extent to which students are experiencing the necessary inputs for learning. While some have proposed that quality is synonymous with outcomes – meaning that the quality of education can be inferred based on the extent to which learning outcomes are achieved – equating quality with learning can provide misleading views on classroom environments and also provides little information on which elements of the education system are amenable to policy changes to improve learning. Instead of relying solely on learning outcomes as a judge of quality, groups of indicators with relevance at the national, regional or global level may be useful in providing an indication of quality. For example, resources – in particular teaching resources devoted to education or measures of pupils’ progression through the education system – have been used as proxy measures of quality. Most countries collect annually the necessary administrative data on teacher and pupil numbers from schools to calculate pupil-teacher ratios or average class sizes. An important next step is to analyse these indicators in relation to classroom observations and student learning and to begin clarifying which indicators of quality are most valuable to track over time.

As noted above, for reading and mathematics at primary and secondary education levels, a considerable amount of effort has already been invested in defining the key constructs and creating assessments. Yet despite the notable steps forward in recent years, a major limitation is the absence of global scales or learning metrics that describe the learning trajectories of all students in reading and mathematics, including those at the lower end of the achievement distribution. This gap can be filled in the case of the learning domains of reading, mathematics and, to a lesser extent, science. To achieve a set of global scales in these domains, considerable technical work will be required to draft learning metrics on the basis of existing national, regional and international assessment programmes at primary and secondary education levels. The next steps entail calibrating these metrics through an empirical equating exercise and then aligning national assessment activities with the metrics to facilitate reporting against the internationally-accepted common learning metrics. This work is technically feasible for primary and lower secondary education in the learning domains of reading and mathematics and, additionally, at the lower secondary level only for science, and can be completed within the time available before the UN General Assembly in September 2015. The TAG recommends that this work is completed as it is vital for ensuring the availability of indicators for measuring at least a minimum core of learning outcomes from 2015 onward.

Indicator	Alignment with concept	Data availability
Achievement of relevant learning outcomes		
Percentage of children who achieve minimum proficiency standards in reading and mathematics at the end of: - Grade 2 - primary school - lower secondary school	High: Direct assessment of reading and mathematics skills.	Indicators of learning outcomes in reading and mathematics are available from national, regional and international assessments for: Ca. 35 countries from regional assessments Ca. 60 countries from EGRA/EGMA Ca. 50 countries from PIRLS Ca. 70 countries from PISA, ca. 65 from TIMSS
Completion of basic education		
Primary education attainment rate (% of cohort aged 3-7 years above official primary school age)	High: Indicators measure the percentage of a cohort of children/young people who have completed the relevant cycles of education.	Over a five-year period, the indicator is available for at least 95 out of 137 low- and middle-income countries (or 70%). Requires data from household surveys and is therefore not available annually. Attainment indicators are collected for children above the official school age so there are time lags relative to policy changes (i.e. they do not reflect current situation).
Lower secondary education attainment rate (% of cohort aged 3-7 years above official primary school age)	High: Indicators measure the percentage of a cohort of children/young people who have completed the relevant cycles of education.	Requires data from household surveys and are therefore not available annually. Attainment indicators are collected for young people above the official school age so there are time lags relative to policy changes (i.e. do not reflect current situation).
Gross intake ratio to the last grade of primary education	Moderate: Indicator is a measure of first-time entry to the last grade of primary education.	Available for at least 150 countries (at least once from 2008-2012). Indicator is presented as a percentage of the population at the official age for entry into the last grade. It is a gross measure and can exceed 100%.
Gross intake ratio to the last grade of lower secondary education	Moderate: Indicator is a measure of first-time entry to the last grade of lower secondary general education.	Available for at least 150 countries (at least once from 2008-2012). Indicator is presented as a percentage of the population at the official age for entry into the last grade. It is a gross measure and can exceed 100%.
Access and participation in basic education		
Children who were never in school (% of cohort aged 3-6 years above official school age)	High: Indicator highlights older children who did not go to school.	Over a five-year period, the indicator is available for at least 95 out of 137 low- and middle-income countries (or 70%). Most high-income countries collect this information.
Number of out-of-school children and adolescents	High: Indicators focus on the primary and lower secondary age groups who are not <u>at least</u> in primary education.	Numbers of OOS children and OOS adolescents are estimated on the basis of administrative data on enrolment by age and sex reported annually by some 160 countries at the primary and 125 at the lower secondary level (at least once from 2008-2012).
Primary adjusted net enrolment rate	Moderate: Indicator measures participation in education of relevant age groups.	Requires same data as for out-of-school children.
Lower secondary total net enrolment rate	Moderate: Indicator measures participation in education of relevant age groups.	Requires same data as for out-of-school adolescents.
Quality of basic education		
Pupil-teacher ratio (by level of education)	Low: Indicators not necessarily predictive of quality.	Administrative data on teachers and pupils by level of education are collected annually by most countries. PTRs are estimated to be available for at least 175 countries at the primary level and 130 at the lower secondary level (at least once from 2008-2012).
Nine years year of free and compulsory basic education		
Countries with nine years of free and compulsory basic education in legal/institutional frameworks	Moderate: Legal frameworks are not always implemented in practice. Where they are, the degree of alignment would be higher.	All countries have information on national (where appropriate sub-national) laws on education provision. Currently ca. 145 countries have laws providing at least nine years of compulsory education (after pre-primary) to children and young people.

5.3 Target 3

By 2030, all youth and at least x% of adults reach a proficiency level in literacy and numeracy sufficient to fully participate in society, with particular attention to girls and women and the most marginalised.

What should be measured?

Key concepts to measure in this target include:

- **Functional literacy and numeracy;** and
- **Access to and participation** in literacy and numeracy programmes.

What is available now?

The shift in the definition of literacy from the ability to “read and write, with understanding, a short simple statement about everyday life” to functional literacy has implications for measurement. Functional literacy is the ability to “engage in all those activities in which literacy is required for effective function of an individual, group or community”. It implies a higher skill level than that required to read or write a simple

statement. Youth and adult literacy rates, derived from data collected in reference to the previous concept of basic literacy, are available for about 155 countries and territories for the most recent census cycle (2005-2014). Some of these literacy rates are projections based on data collected in previous years. Yet to measure progress towards Target 3, the youth and adult literacy rates based on previous definitions are limited in their ability to capture actual skills and may overestimate the true percentage of the youth or adult population who can read. In recent years there have been attempts to assess literacy (and to a lesser extent numeracy) directly. For example, simple reading tests in Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) demonstrate that the percentage of persons who claim to be able to read and write is usually higher than the percentage of persons who can read a simple sentence such as, “the child is reading a book”. Moreover, even directly assessed measures give higher estimates of literacy compared with those that try to assess whether individuals are able to read with comprehension.

What are the main measurement challenges?

The outcome-oriented concept of a “proficiency level in literacy and numeracy sufficient to fully participate in society” is new and poses distinct challenges for indicator development. In the past, the focus was on basic literacy only, which in most cases was self-reported and not directly assessed. Numeracy was not covered. The new target shifts attention to functional literacy and numeracy – seen as a continuum of skills – and acknowledges that the ability to read or count is not a sufficient skill level to prevent exclusion.

The direct measurement of literacy and numeracy skills, have been collected in some household surveys, is not enough to assess whether adults have achieved sufficient proficiency in these areas to participate fully in society. And, because the ability to “read and write, with understanding, a short simple statement about everyday life” is very different from “proficiency in literacy and numeracy sufficient to fully participate in society,” there is no straightforward relationship between these two concepts. It is therefore not possible to use the existing data on basic literacy rates to estimate functional literacy or numeracy rates.

Data collection for functional literacy and numeracy requires thorough assessments of skills and is consequently more challenging and expensive. For this reason, there is relatively little data available on tested literacy or numeracy skills.

The Programme for the International Assessment of Adult Competencies (PIAAC) by the OECD collects data on functional literacy and numeracy that could be used to measure progress towards this target, but this survey has been carried out in 33 countries. Similar data could also, in principle, be collected through the Literacy Assessment and Monitoring Programme (LAMP), which has been conducted in a few countries.

Both surveys can be used to assess gender equity in literacy and numeracy skills. However, because they are sample surveys, their ability to provide representative data for small sub-groups of the population is limited. Thorough assessments of functional literacy or numeracy cannot be added to the questionnaires used in population censuses (which would provide data on small sub-groups of the population) because of the added complexity of data collection.

It should also be noted that these types of assessment surveys are very expensive and impractical to run on a frequent basis in most countries. However, both LAMP and PIAAC surveys have modules that assess low-level literacy skills as filters: these might be used as a basis for developing a less expensive module that could be implemented in other surveys. For example, the World Bank Skills Toward Employment and Productivity (STEP) survey employed a subset of questions from PIAAC and could be used as a basis for such an approach.

The output-oriented concept of participation in literacy and numeracy programmes is also new in the sense that this information has not been previously collected on a systematic basis. This will require administrative systems to report on second chance and adult education programmes. Alternatively, more use could be made of household surveys. To monitor this target, the question should focus on a specific and recent time period.

Indicator	Alignment with concept	Data availability
Proficiency in literacy/numeracy to fully participate in society		
Percentage of youth/adults proficient in literacy skills	High	The OECD PIAAC assesses the proficiency of youth and adults in literacy and numeracy in 33 mostly high-income countries. The World Bank STEP has collected similar information in (urban areas only) 13 low- and middle-income countries.
Youth/adult literacy rate	Low: The indicator does not measure skills in terms of proficiency or ability to participate fully in society.	A simple measure of literacy, i.e. the ability to read and write a simple sentence, usually self-reported, is collected regularly (but not annually) by about 155 countries in household surveys and censuses and reported to the UIS. Few developed countries collect similar information.
Percentage of youth/adults proficient in numeracy skills	High	The OECD PIAAC assesses the proficiency of youth and adults in literacy and numeracy in 33 mostly high-income countries. The World Bank STEP has collected similar information in (urban areas only) 13 low- and middle-income countries.
Participation in literacy/numeracy programmes		
Participation rate in literacy programmes over the past 12 months (as % of illiterate 25- to 64-year-olds)	High	Not currently available at the international level. Administrative data on participants in literacy and numeracy programmes are not collected regularly at the international level. Demographic and Health Surveys include a question on participation in adult literacy programmes.

5.4 Target 4

By 2030, at least x% of youth and y% of adults have the knowledge and skills for decent work and life through technical and vocational, upper secondary and tertiary education and training, with particular attention to gender equality and the most marginalised.

What should be measured?

Key concepts to measure in this target include:

- **Knowledge** and **skills** for decent work and life; and
- **Participation** in technical and vocational, upper secondary and tertiary education and training.

What is available now?

It is relatively straightforward to measure participation in upper secondary and tertiary education, including technical and vocational education (TVET), at least at the upper secondary level. Most countries collect administrative data annually on participation in different types of programmes which can be used to calculate relevant enrolment ratios.

What are the main measurement challenges?

The two main concepts in the target pose distinct challenges for indicator development. First, the outcome-oriented concept of “knowledge and skills for decent work and life” is new to the education agenda, which was previously focused on “access to skills programmes”. However, there is as yet no clear measure of knowledge and skills that can be applied across countries:

- Most attempts at cross-country comparable measures of skills have focused on literacy (and to a lesser extent numeracy) as a cognitive skill. However, literacy and numeracy skills, which also have a non-cognitive aspect, are covered under Target 3.
- Therefore, the challenge is to develop skill concept(s) that are comparable and universally-relevant, whether for farmers in rural areas of low-income countries or office workers in urban areas of high-income countries.
- Surveys such as the OECD Programme for the International Assessment of Adult Competencies (PIAAC) or the World Bank framework Skills Toward Employment and Productivity (STEP) have mainly focused on demand for skills rather than whether different workers possess particular skills.

Two indicators are proposed below. Neither is fully aligned with the concept of decent work and they partly depend on skills related to information technology. Nevertheless, these indicators offer an avenue to explore especially in light of the increasing importance of these skills in the labour markets of countries at all income levels.

Second, the output-oriented concept of participation in “technical and vocational, upper secondary and tertiary education and training” is also new in the sense that there was previously no explicit focus on these levels. More work is needed on three proposed indicators:

- Youth participation in TVET programmes is currently measured mainly at the secondary and post-secondary non-tertiary education levels. While it is possible to calculate enrolment ratios for TVET, this can be difficult due to varying duration of programmes.
- Adult participation in education and training is currently only measured systematically in European Union countries and some standardisation work will be required for this to be tracked globally.
- The rate of youth not in education, employment or training (NEET) is measured in high-income countries but may not be as relevant in poorer countries with greater levels of under-employment or informal employment.

Indicator	Alignment with concept	Data availability
Knowledge and skills for decent work and life		
Percentage of youth / adults with problem-solving skills	Low/Moderate: The concept of problem-solving skills as currently measured may not be equally applicable across different country contexts in terms of its application to decent work and life: <ul style="list-style-type: none"> - PIAAC measures skills in ‘technology-rich environments’ - PISA measures students’ cognitive processing to understand and resolve problem situations where a method of solution is not immediately obvious 	The OECD PIAAC assesses the proficiency of youth and adults in problem solving in 33 countries. The OECD PISA from 2012 onwards assessed creative problem-solving skills, openness to novelty, tolerance of doubt and uncertainty, and ability to use intuition to initiate a solution in 44 countries.
Percentage of youth / adults who are computer and information literate	Low/Moderate: The concept of computer and information literacy is neither necessary nor sufficient for access to decent work in many parts of the world.	The IEA International Computer and Information Literacy Study (ICILS) will assess these skills in 20 countries.
Participation in technical and vocational, upper secondary and tertiary education and training		
Upper secondary education gross enrolment ratio	Moderate: measures participation of relevant cycle of education but is not closely linked to the acquisition of skills for decent work and life which can also be acquired at lower levels of education.	Available for ca. 160 countries.
Tertiary education gross enrolment ratio		Available for ca. 145 countries.
Participation rate in technical and vocational programmes (15- to 24-year-olds)		Not currently calculated in this way. Data on the share of technical and vocational enrolment in upper secondary education is available for ca. 135 countries.
Percentage of youth not in education, employment or training (18- to 24-year-olds)	Moderate: As above. In addition, the concept of employment varies considerably across countries.	ILO reports on the indicator mainly for high-income countries.
Participation rate in education and training over the past 12 months (25- to 64-year-olds)	Moderate: As above. In addition, there are varying definitions of adult education and training across countries.	The European Union’s Adult Education Survey collects relevant data in a consistent way across 30 countries.

5.5 Target 5

By 2030, all learners acquire knowledge, skills, values and attitudes to establish sustainable and peaceful societies, including through global citizenship education and education for sustainable development

What should be measured?

Key concepts to measure in this target include:

- Knowledge, skills, values and attitudes required to establish sustainable and peaceful societies; and
- Participation in global citizenship education and education for sustainable development.

Global citizenship education and education for sustainable development (GCE/ESD) refers to a broad range of skills, competencies and knowledge that equip students for addressing the challenges and opportunities of complex societies, relevant to promotion of environmental sustainability, global awareness, and appreciation and respect for diversity. Learning outcomes stemming from GCE/ESD include knowledge, attitudes, values and behaviours, and encompass cognitive (e.g. creativity and critical thinking); interpersonal (e.g. collaboration and leadership); and intrapersonal (e.g. motivation and self-reflection) domains. Learning outcomes resulting from GCE/ESD are considered relevant across all countries, although

there is agreement that the cultural and country context will influence both the acquisition and the manifestation of GCE/ESD. The ways in which GCE/ESD is taught, and the process by which students acquire the desired learning outcomes, vary considerably from one context to the next, which limits the potential for global tracking.

What's available now?

To serve as the basis for global tracking of learning outcomes of GCE/ESD, cross-national assessments of student learning in secondary education currently capture some relevant items, especially for measurement of the cognitive elements of GCE/ESD related to knowledge, attitudes, values and behaviours. There are two major assessments to consider:

- the International Civic and Citizenship Education Study (ICCS) of the International Association for the Evaluation of Educational Achievement (IEA), which will be repeated and enriched in 2016; and
- the Programme for International Student Assessment (PISA), which contains items on environmental awareness and critical thinking, will be expanded in 2018 to include an assessment of global competencies, which may cover knowledge and skills, attitudes, and dispositions towards global issues, as well as aspects of global employability and mobility of young people.

With very few exceptions, neither of these surveys is consistently undertaken in developing countries, and items therefore need to be further validated to ensure applicability and comparability across settings. The scope and complexity of this task should not be underestimated, as outlined in greater detail below.

The World Values Survey, conducted once every five to six years, which included about 54 countries in the most recent wave, also contains items relevant to sustainability and global citizenship, such as attitudes toward democracy or the environment.

What are the main measurement challenges?

At present, there is no single agreed-upon definition of global citizenship, which makes it considerably more challenging to devise accurate and feasible approaches to measurement. While there is widespread consensus on the importance of GCE/ESD learning outcomes, the diverse range of skills and competencies, and the complexity of measurement, present challenges for tracking global progress. As well, GCE/ESD should begin at the start of school and extend through the education cycle, which will require selecting one or two age points at which it should be measured. At present, there is not one survey or set of items that aligns well with the concept of GCE/ESD; instead, more comprehensive tracking may require several different types of items from more than one survey. Because global tracking requires use of the same measures or items, there is a tension between the uniformity necessary for global tracking and the sensitivity to context. Yet despite these challenges, there is both an empirical basis for measurement and a constituency committed to moving the measurement agenda forward.

Beyond the cognitive elements of GCE/ESD, intrapersonal and interpersonal knowledge, attitudes, values and behaviours are not as frequently measured on a global or regional basis, but several research studies have proposed and tested measures of creativity, collaboration and empathy. These studies can be mined to develop a proposed set of items or a module that could then be included in global, regional or national surveys. Solutions could include the designation of a small set of items for global tracking (perhaps those specifically focused on cognitive knowledge, attitudes or values), whereas some of the other elements, especially interpersonal and intrapersonal, may be more suitable for national or regional tracking to allow more flexibility and sensitivity to context. The IEA survey, for example, has both a global component and regional modules, to better capture the contextual dimensions relevant to GCE/ESD.

It also may be possible to design and collect indicators of GCE/ESD inputs and outputs, including the presence of curricula and teacher training for GCE/ESD, and students' participation in GCE/ESD throughout the school years, which could provide information on progress towards implementation of GCE/ESD and the likelihood that desired student outcomes will be achieved. However, the difficulties of comparing curricular content across countries should be carefully considered.

Indicator	Alignment with concept	Data availability
Knowledge and skills for sustainable peaceful societies		
Percentage of 15-year-old students showing proficiency in knowledge of global issues including knowledge of environmental science and geoscience	Moderate: Knowledge is seen as important component but does not cover the full concept of GCE/ESD	PISA 2006, administered in 57 countries, estimated an “environmental science performance index.” ICCS 2009, which included 38 countries, contains workable items for larger-scale tracking that will require validation in developing world settings. ICCS 2016 will provide globally-comparable data on civic knowledge and engagement, and students’ roles in peaceful functioning of schools.
Values and attitudes for sustainable peaceful societies		
Percentage of 13-year-old students endorsing values and attitudes promoting equality, trust and participation in governance	Moderate: Covers important values and attitudes but is not comprehensive	ICCS 2009; see notes above.
Percentage of adults who respond positively to the statement: “Protecting the environment should be given priority even if it causes slower economic growth and some loss of jobs”	Moderate: Covers important values and attitudes but is not comprehensive.	World Values Survey 2012, which has included over 100 countries in various survey waves, contains items on values and attitudes on environmental protection, views on citizenship, freedom of information, and global awareness. These items will also require further validation and testing for youth and in developing world settings.
Global citizenship education (GCE)		
Percentage of 13-year-old students participating in citizenship education	Moderate: Participation in citizenship education is only one component of GCE/ESD	ICCS 2009; see notes above. The inclusion of classroom characteristics relevant to GCE/ESD (i.e. openness of classroom dialogue) can also be considered. PISA 2018 will incorporate an assessment of global competence, which may cover knowledge and skills, attitudes, and dispositions towards global issues as well as aspects of global employability and mobility of young people

5.6 Target 6

By 2030, all governments ensure that all learners are taught by qualified, professionally-trained, motivated and well-supported teachers

What should be measured?

Key concepts to measure in this target include:

- Characteristics of teachers such as **qualifications** and **professional training**;
- Teacher **motivation**; and
- Provision of **support for teachers**.

The core assumption underlying this target is that supported, qualified, motivated and professionally-trained teachers will deliver higher-quality instruction. It is important to note that the key concepts underlying this target are all assumed to contribute to the quality of instruction within the classroom. The investigation of which factors are most strongly associated with quality instruction is beyond the scope of this target but should be noted as an area in need of further investigation.

What is available now?

Most countries collect data annually on teachers’ working modality (part-time/full-time) and sex by education level.

From an international monitoring perspective, the available teacher-related indicators are not extensive but do cover some form of teacher qualifications and training. However, these are typically reported by national teaching standards (e.g. higher education qualification), which can vary markedly from country to country. Thus, observed performance on this target can be “improved” by lowering standards or “worsened” by setting a higher standard (although the latter will eventually have a positive effect on the knowledge and skills of the teaching force), neither of which would meaningfully indicate shifts in the quality of instruction received by students.

More detailed indicators related to teaching work conditions – which could perhaps provide some basis for indicators of teacher motivation and support for teachers – have been developed in the Indicators of National Education Systems (INES) programme for OECD countries and have been applied by the UIS in about 15 additional middle-income countries.

Cross-national surveys of student achievement (such as PIRLS, TIMSS, PISA, SACMEQ, PASEC and LLECE) provide additional information on teachers, reported by teachers themselves as well as head teachers and students on different aspects of teaching, including teacher knowledge. The UIS, with the OECD and partner countries, have fielded a similar school-based survey in 11 middle-income countries which provides lessons to take forward this kind of approach. Partly based on this experience, the OECD Teaching and Learning International Survey (TALIS) also incorporates teacher perspectives in 33 developed countries. TALIS is an international survey of teachers and teaching based on questionnaire responses by individual teachers and their school principals. The 2013 TALIS survey covered 107,000 lower secondary school teachers in 34 countries and provides policy information regarding the conditions of teaching and learning environments.

What are the main measurement challenges?

The use of data on statutory salaries and working time collected by the UIS, the OECD and Eurostat, and tools such as the World Bank's SABER diagnostic, represent a helpful step towards better understanding the design of policies related to teachers, teaching and education quality. However, there are still measurement issues to address. For example, statutory salary scales do not fully reflect the benefits that accrue to teachers, as in some countries non-salary benefits can account for up to 60% of income. It is very difficult to quantify and therefore compare these benefits across countries or over time. Most importantly, this information does not capture their implementation. Nonetheless, labour force surveys could be explored as a source of information to assess the income of teachers relative to other professionals.

Next steps

The emphasis on teachers as instrumental to education quality and positive education progress has been widely recognised, however, there are still significant gaps in information, which will require new indicator frameworks:

- To achieve global comparability of concepts related to teachers and teaching, there should be agreement on standards for teacher qualifications and training. This could be facilitated by the development of a taxonomy to help to set standards and benchmarks for comparison.
- Further efforts are needed to define concepts that describe teacher motivation and support. Once these concepts of motivation and support have been clarified and agreed upon, measurement tools must be developed and gain consensus among stakeholders. There are some indicators based on statutory information (e.g. salary scales, working conditions) that are readily available and come close to achieving the standards required for global comparability. However they may not be reliable markers of actual implementation or practices within classrooms.
- Better use of existing data, whether in administrative databases or through assessment and other initiatives, can help guide further efforts to identify indicators that capture the key concepts set out by the target and are globally comparable.

Indicator	Alignment with concept	Data availability
Qualified teachers		
Percentage of teachers qualified according to national standards (by level)	Moderate to high: Concept is very well-aligned but cross-national comparisons can be weak as national standards can vary widely between countries.	Not currently at the international level. Countries to report on the number of qualified teachers by sex and level of teaching on an annual basis from 2014.
Pupil-qualified teacher ratio	Moderate: Indicator measures the availability of qualified teachers to learners but does not assess the quality of teaching delivered.	PQTR is not available currently at the international level. Administrative data on teachers and pupils by level of education are reported annually by countries to the UIS. Countries report numbers of qualified teachers by sex and level of teaching on an annual basis from 2014.
Professionally-trained teachers		
Percentage of teachers trained according to national standards (by level)	Moderate to high: Concept is very well-aligned but cross-national comparisons can be weak as national standards can vary widely between countries.	The indicators are available for ca. 105 countries at the primary level and ca. 50 countries at the upper secondary level. Administrative data on trained teachers by level of education (pre-primary to post-secondary non-tertiary) are reported annually by countries to the UIS.
Pupil-trained teacher ratio	Moderate: Indicator measures the availability of trained teachers to learners but does not assess the quality of teaching delivered.	Not currently at the international level but can be calculated from the reported data. Administrative data on pupils and trained teachers by level of education (pre-primary to post-secondary non-tertiary) are reported annually by countries to the UIS.
Motivated teachers		
Average teacher salary relative to other professionals	Low: The financial return is one element of teacher motivation but does not guarantee motivated teachers.	Not currently at the international level. Data on actual salaries of teachers and those in other professions are not readily available. Indicators comparing two different professions will be affected by (a) differences in qualifications/experience required by each profession and (b) differences in typical working time or contract types. It may be necessary to limit the comparison to full-time staff. Data on statutory salaries are easier to collect, though it can be difficult to identify comparable professions which also have statutory salary scales. Teachers' statutory salaries can also be standardised by expressing as a % of GDP per capita.
Status of school climate and other learning environment factors associated with teacher motivation	Moderate to low	School climate and other learning environment factors associated with teacher motivation monitored by TALIS in 34 countries.
Well-supported teachers		
Incidence of in-service training	Moderate to low: Professional development could be considered one part of support	Not currently available at the international level.

5.7 Target 7

By 2030, all countries allocate at least 4%-6% of their gross domestic product (GDP) or at least 15%-20% of their public expenditure to education, prioritising groups most in need; and strengthen financial cooperation for education, prioritising countries most in need.

What should be measured?

Key concepts to measure in this target include:

- Public education expenditure;
- Aid to education;
- Groups most in need; and
- Countries most in need.

What is available now?

This target refers to concepts that are well established: public financial data are available through the UIS database, and the EFA Global Monitoring Report has been reporting on aid to education based on the OECD Development Assistance Committee (DAC) database.

What are the main measurement challenges?

However, the target also includes an explicit reference to equity, which presents new challenges:

- In the case of public education expenditure, "groups most in need" should be prioritised. There is currently no systematic approach to monitor how public education resources are shared across population groups. One approach would be to identify the share of public education expenditure that accrues to the poorest (and richest) quintiles through benefit incidence analyses. The

advantage of the approach is that it is standardised and comparable. The disadvantage is that the share of resources accruing to poor households will be mainly driven by characteristics of the education system (e.g. percentage of rich children attending private schools, percentage of poor children attending secondary and tertiary education) and will not capture explicit government efforts to target poor children. However, the information requirements for the latter are very high.

- In the case of expenditure on aid to education, “countries most in need” must be prioritised. A definition based on either the country’s income level and/or the country’s percentage of out-of-school children (or not acquiring basic skills) would be needed to use as a basis for monitoring the share of aid that is received specifically by that group of countries.

Indicator	Alignment with concept	Data availability
Public expenditure on education		
Public expenditure on education as percentage of GDP	High: In relation to target, but weak as an indicator of government commitment to education.	Available for 145 countries.
Public expenditure on education as percentage of total public expenditure	High: A robust indicator of government commitment to education.	Available for 145 countries.
Prioritisation of groups most in need		
Share of public expenditure on education received by poorest quintile	Low/Moderate: The share is determined by the percentage of children attending different levels of education and does not take into account attempts to target resources to the poorest households.	The indicator would be derived from household surveys (identifying participation by level of education and by sector) and public expenditure data (by level).
Financial cooperation for education		
Total aid to education	High: Directly measures one of the elements of the target.	Available for ca. 145 countries.
Total aid to basic education	High: Directly measures one of the elements of the target.	Available for ca. 145 countries.
Countries most in need		
Percentage of total aid to education in low-income countries	Moderate: The percentage does not capture whether aid reaches countries most in need.	Available for most low-income countries.
Percentage of total aid to basic education in low-income countries	Moderate: The percentage does not capture whether aid reaches those populations most in need within the countries.	Available for some low-income countries.

6. Conclusions and next steps for the development of post-2015 education indicators

Overall, while all of the proposed targets have some indicators that are currently available for measurement, substantial investment in new indicator development will be required to more fully track the proposed targets. In addition to indicators of learning and equity, it will also be necessary to develop new input and output indicators on access to early childhood education; financing for education, especially for the most vulnerable populations; education for global citizenship and sustainable development; and the extent to which teachers are motivated, paid sufficiently and trained.

To move efficiently towards the development and validation of new indicators, international organizations and national governments must coordinate their efforts by agreeing on common definitions for new indicators and investing in testing and validation; and in sharing data, participating in joint efforts for data analyses, and reporting results with perspectives from multiple organizations and governments. While we have a good basis for reliable tracking of the proposed targets, additional investment coupled with more efficient use of existing resources will lead to notable improvements in our understanding of the ways and extent to which we are making progress towards proposed education targets.

The TAG will continue its work in 2014 and 2015. There will be opportunities for public consultation on the recommendations for proposed indicators, approaches to measurement and the data development agenda outlined in this paper at upcoming regional EFA meetings, to be held in late 2014 and early 2015. The TAG will also prepare more detailed technical papers on key areas of measurement, especially related to education quality and learning outcomes, and the distribution of learning opportunities, which will be prepared for the EFA meeting to be held in the Republic of Korea in May 2015.

Annex A. Post-2015 education indicators by potential data source and disaggregation

Target	Level	Indicator	Source	Sex	Wealth	Location	Other
1	A. Input	1. Child-educator ratio 2. Countries with 1 year free and compulsory pre-primary education	Administrative Administrative	– –	– –	– –	Country
	B. Output	1. Participation rate in organised learning (3- to 4-year-olds) 2. Gross pre-primary enrolment ratio	Survey Administrative	X X	X –	X X	
	C. Outcome	1. Early Childhood Development Index 2. Under-5 mortality rate 3. Under-5 stunting rate	Survey Mixed Mixed	X X –	X – –	X – –	
2	A. Input	1. Countries with nine years of free and compulsory basic education	Administrative	–	–	–	Country
	B. Output	1. Percentage of children who were never in school 2. Number of out-of-school children 3. Primary adjusted net enrolment rate 4. Primary attainment rate 5. Gross intake ratio to the last grade of primary education 6. Gross intake ratio to the last grade of lower secondary education 7. Number of out-of-school adolescents 8. Lower secondary total net enrolment rate 9. Lower secondary attainment rate	Administrative/Survey Administrative/Survey Administrative Survey Administrative/Survey Administrative/Survey Administrative Administrative Survey	X X X X X X X X X	X X – X X X – – X	X X X X X X – – X	
	C. Outcome	Percentage of children who achieve minimum proficiency standards in: 1. Reading/mathematics at the end of grade 2 2. Reading/mathematics at the end of primary school 3. Reading/mathematics at the end of lower secondary school	Survey Administrative/ Survey Administrative/Survey	X X X	X X X	X X X	
3	A. Input	–					
	B. Output	1. Participation rate in literacy programmes (illiterate 25- to 64-year-olds)	Administrative	X	–	–	
	C. Outcome	1. Youth literacy rate/Adult literacy rate 2. Percentage of youth/adults proficient in literacy skills 3. Percentage of youth/adults proficient in numeracy skills	Census/survey Survey Survey	X X X	– X X	– X X	
4	A. Input	–					
	B. Output	1. Upper secondary gross enrolment ratio 2. Tertiary gross enrolment ratio 3. Participation rate in technical and vocational programmes (15- to 24-year-olds) 4. Participation rate in education and training (25- to 64-year-olds) 5. Percentage of youth not in education, training or employment (18- to 24-year-olds)	Administrative Administrative Administrative/Survey Survey Survey	X X X X X	– – X X –	– – X X –	
	C. Outcome	1. Percentage of youth/adults with problem-solving skills 2. Percentage of youth/adults who are computer and information literate	Survey Survey	X X	X X	X X	
5	A. Input	–					
	B. Output	1. Percentage of 13-year-old students participating in citizenship education	Administrative	X	–	–	
	C. Outcome	1. Percentage of 15-year-old students showing proficiency in knowledge of environmental science and geoscience. 2. Percentage of 13-year-old students endorsing values and attitudes promoting equality, trust and participation in governance 3. Percentage of adults who respond positively to the question 'Protecting the environment should be given priority even if it causes slower economic growth and some loss of jobs'.	Survey Survey Survey	X X X	X X X	X X X	
6	A. Input	1. Percentage of teachers qualified according to national standards (level) 2. Percentage of teachers trained according to national standards (level) 3. Percentage of teachers receiving in-service training 4. Average teacher salary relative to other professionals	Administrative Administrative Administrative Survey	X X X X	– – – –	– – – –	
	B. Output	1. Pupil-teacher ratio 2. Pupil-qualified teacher ratio	Administrative Administrative	– –	– –	– –	School School
	C. Outcome	–					
7	A. Input	1. Public expenditure on education as percentage of GDP 2. Public expenditure on education as percentage of total public expenditure 3. Share of public expenditure on education received by poorest quintile 4. Total aid to education 5. Total aid to basic education	Administrative Administrative Mixed Administrative Administrative	– – – – –	– – X – –	– – – – –	Country Country
	B. Output	–					
	C. Outcome	–					