WG/GAML/3

CHILDREN COMPLETING AND LEARNING INDICATOR[1]

Objective

The purpose of this paper is to explore a methodology that combines the two SDG target 4.1 global indicators on completion and learning, in order to provide a more accurate view of the education situation facing children and adolescents, especially in regions where many do not reach the grade at which the assessment is administered. In other words, the proposed 'Children completing and learning' Indicator integrates completion and learning into a single measure.
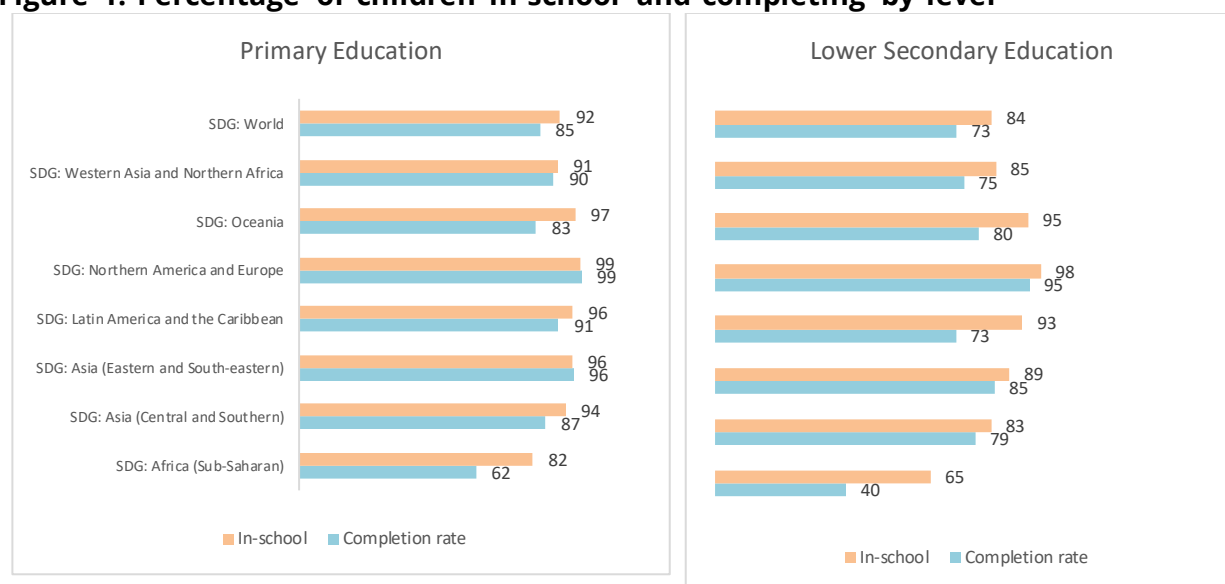
The proposal aims to draw the attention of policy makers, public opinion and the international community need to bring their attention to the percentage of an entire relevant age cohort in the population who has reached an education level (early grades of primary, end of primary or end of lower secondary) and is proficient in a given subject (reading or mathematics) according to agreed global minimum proficiency levels. The children learning indicator would be equal to 100% if all children complete a given education level and learn.

SDG Target 4.1 aims to *"ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes" by 2030.*

SDG Indicator 4.1.1 is used to measure progress towards this target since 2015. It is defined as "*proportion of children and young people (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex*."

In March 2020, in its 51st session, the United Nations Statistical Commission added a second indicator to the SDG4 Global Framework, in the understanding it brings a better measurement of SDG Target 4.1. **SDG Indicator 4.1.2** is defined as "*completion rate (primary education, lower secondary education, upper secondary education)*" or the percentage of a cohort of children or young people who have completed a given education level.

Figure 1 below shows the percentage of children in school, measured through the total net enrolment rate, and the percentage of children completing the education level. The figure shows that 82% of children are in school in sub-Saharan Africa and just 62% complete primary education (UIS, 2019) The rates fall even further for lower secondary education, with just 65% of adolescents between the ages of about 12 to 14 years old enrolled in school and only 40% completing this level.

Figure 1: Percentage of children in-school and completing by level

Source: UIS based on UIS database for OOSCi and GEMR estimates on timely completion.

Children Completing and Learning: a synthesis indicator for SDG Target 4.1

To achieve Target 4.1 all children must complete primary and secondary education *and* achieve sufficient learning outcomes. To offer a more accurate view of the situation vis- a-vis the achievement of the target, we propose a simple methodology, combining both global indicators in Target SDG 4.1, to produce a **quality-adjusted completion rate** defined as follows:

> **Indicator Children Completing and Learning** is defined as the *proportion of children (a) reaching grade 3, (b) completing primary and (c) completing lower secondary and achieving minimum proficiency in (i) mathematics and (ii) reading, at the respective levels, by sex.*

The indicator is the product of two factors: learning and completion, which can be used to decompose the school-age population as shown below:

$$SAP = (Completion\ rate * SAP) * AMPL + (Completion\ rate * SAP) * BMPL + Non\ completers\ )$$

SAP is the school age population and represents the overall number of children (whatever their enrolment or learning status) with respect to which primary completion is measured. Note that this equation implies that completing primary school is a prerequisite for reaching primary school learning goals. "AMPL" is the percentage of students at or above the minimum proficiency level and "BMPL" below.

Table 1 summarizes the estimate, where the proportion of Children completing and learning is **D** and the children, completing or not, not learning **is A+C**. From the formula above can be derived the total number of Children not learning (CNL) = total – D = A+B+C.

Table 1: Matrix of school participation and learning status

	BMPL	AMPL
Not completing	A	B (~0)
Completing	C	D
	Non-proficient	Proficient

The formula assumes that there will likely be very few children in group B, .i.e. not in school but nonetheless reaching minimum proficiency. Note that this assumption does not imply that non-completers of a given level (drop-out) did not learn anything. The question is whether we should expect them to have reached the learning goals for a given level. However, in settings where drop-out before completion is significant, the proportion of children/youth actually reaching certain learning goals tends to be relatively low. Accordingly, there is little reason to expect school dropouts to have reached these learning goals by the time they dropped out. Most importantly the target expects all children to complete and learn. Therefore learning without completing is equivalent to not meeting the target.

For instance, the percentage of Children Completing and Learning at the end of primary education is expressed as:

$$\% \ Children \ completing \ and \ learning \ primary = (completion \ rate * AMPL \ )$$

Completion rate is the percentage of a cohort of children aged 3-5 years above the intended age for the last grade of primary education who have completed that grade. AMPL is the rate of children and young people at the end of primary education who have achieved or exceeded the minimum proficiency level in a subject (reading or mathematics).

On a practical level, where learning assessments are school-based, no observed learning measure is available for children not in school. Their learning status must therefore be imputed as a matter of practical necessity. While imputing a non-zero proportion reaching the learning goals could conceivably be justified, achieving a consensus around such an approach seems unlikely and there is plenty of evidence (e.g. ASER, PISA-D) that suggests that it is zero. In practice, based on the existing evidence, it seems unavoidable to impute below-threshold learning to out-of-school children who were not assessed.
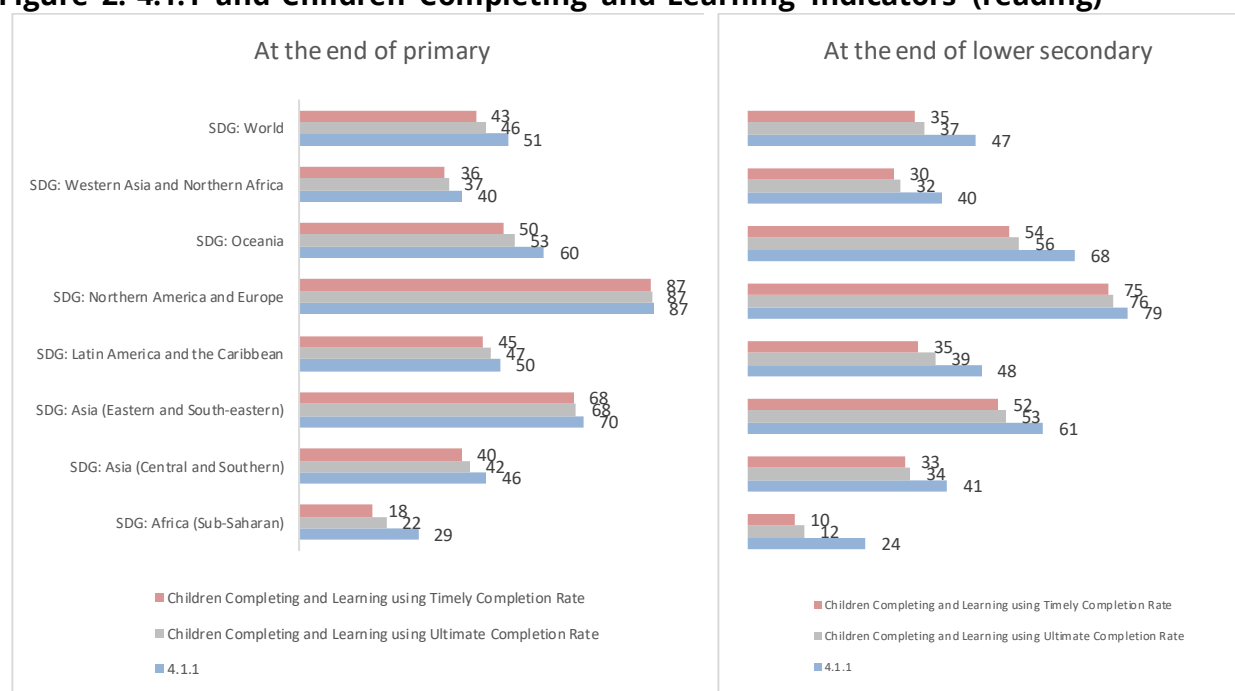
Children Completing and Learning: evidence

Combining completion rates with learning outcomes improves our understanding of progress towards Target 4.1. The greatest differences between the SDG 4.1.1 and Children completing and learning indicators are found in regions or countries with lower completion and enrollment rates because the adjusted (or children completing and learning) indicator is based on a quality-adjusted completion rate. This also explains why the largest

differences occur at the lower-secondary level. Globally, 47% of lower-secondary students achieve minimum proficiency in reading according to the original SDG 4.1.1 Indicator, but the value for the adjusted indicator would fall to 34% of adolescents completing lower secondary and achieving minimum proficiency in mathematics.

As shown in **Figure 2**, there are significant differences between the two indicators at the lower secondary level in regions with low completion rates. In sub-Saharan Africa, for example, 24% of lower secondary students are achieving minimum proficiency level in reading according to the original indicator, while the value for the adjusted indicator falls to 10%, less than half of the original.

Figure 2: 4.1.1 and Children Completing and Learning indicators (reading)

Source: UIS based on UIS database for indicator on Indicator 4.1.1 and GEM Report estimates for indicator on timely and ultimate completion (see box).

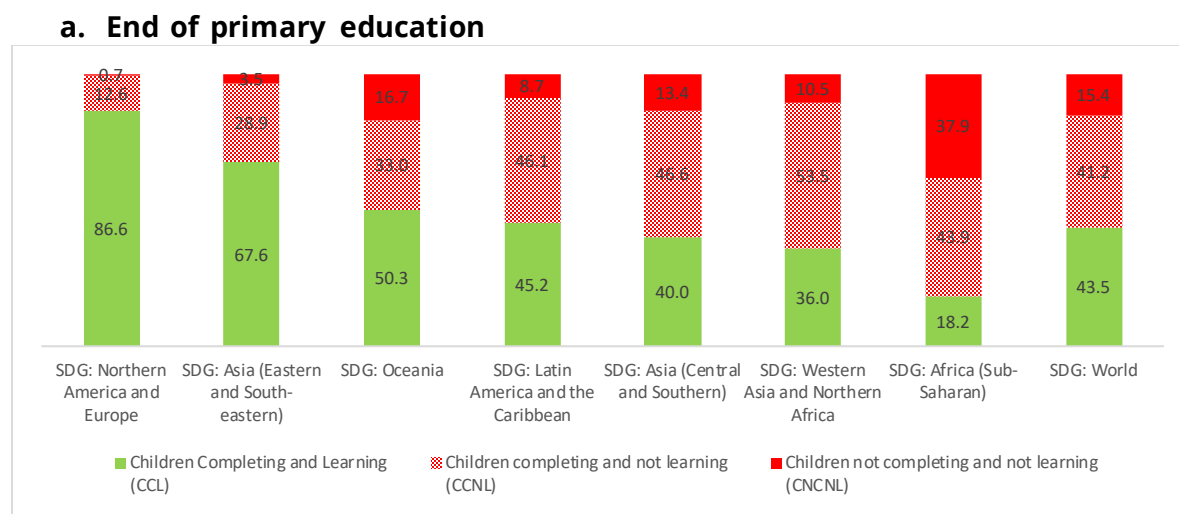**Box: Timely and ultimate completion rates**

The standard indicator for the completion rate measures school completion among students 3 to 5 years above the nominal age for the final grade of an education level. It is a measure of reasonably timely completion. In some countries, a considerable number of students complete school with even greater delay. In many low-and middle-income countries, late school entry, high repetition rates, dropout and later re-entry are common.

In these settings, the standard completion rate underestimates the proportion of the children, adolescents and youth who eventually complete primary, lower or upper

secondary school. In low-income countries, the gap between completion primary <u>timely completion</u> at 3 to 5 years above the intended age for the last grade (typically ages 14 to 16) (55%) and <u>ultimate completion</u> 8 years above (68%) is estimated at 13 percentage points in 2018. This gap is expected to drop to 11 percentage points by 2030.
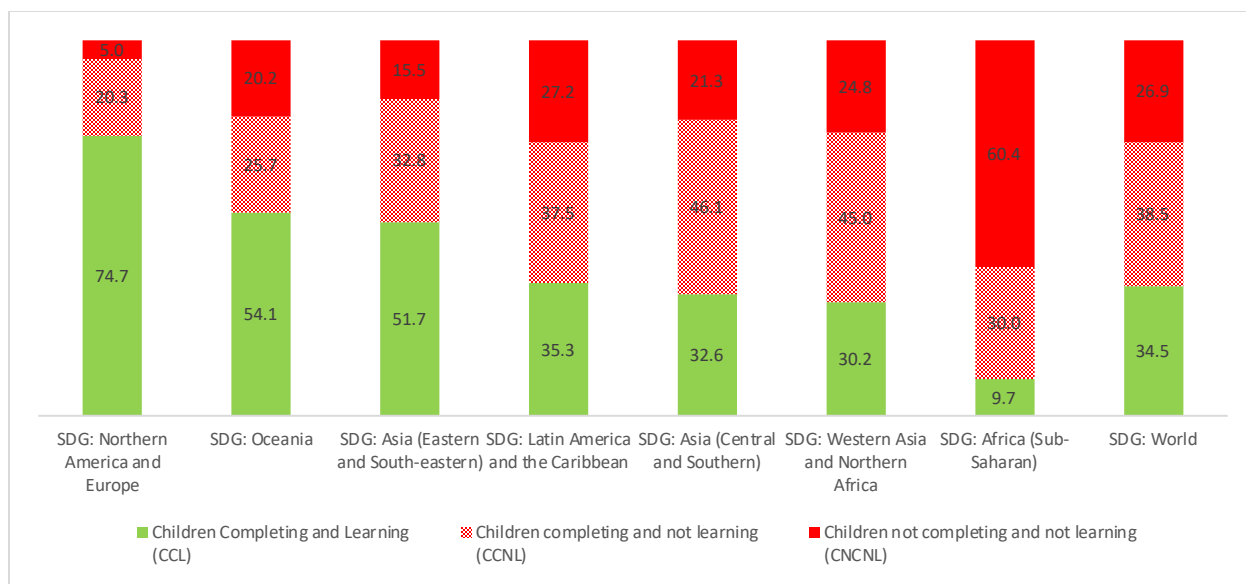
Figure 3 summarizes the distribution of the school age population between children (i) completing and learning (ii) completing and not learning, and (iii) not completing and not learning for primary (Figure 3a) and lower secondary education (Figure 3b) for reading by region, using the timely completion rate. Globally, in primary education, there are 43% of children completing and learning (CCL), 41% of children completing and not learning (CCNL), and 15% of children not completing and not learning (CNCNL). In general, most of the children not learning do complete the education level except for lower secondary in sub-Saharan Africa, where most children do not complete the education level and do not learn (see Figure 3b - 30% of children completing and not learning and 60% of children not completing and not learning).

Figure 3: School age population by status of learning and completion

a. End of primary education

Source: UIS based on UIS database for indicator on Indicator 4.1.1 and GEM Report estimates on timely completion.

b. End of lower secondary education

Source: UIS based on UIS database for indicator on Indicator 4.1.1 and GEM Report estimates on timely completion.