

# Students reaching the Minimum Proficiency Levels Reporting in AMPL and PASEC

## Concept Note



## Acknowledgments

This project, the Assessment and Study of COVID Impact on Learner Progress, is referred to as the COVID-19 MILO (Monitoring Impacts on Learning Outcomes) project. This UNESCO Institute for Statistics (UIS) project is funded by the Global Partnership for Education (GPE).

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# Introduction

The COVID-19: Monitoring Impacts on Learning Outcomes (MILO) project aims to measure learning outcomes in six countries in Africa, in order to analyse the long-term impact of COVID-19 on learning and to evaluate the effectiveness of distance learning mechanisms utilised during school closures. In addition, this project will develop the capacity of countries to monitor learning after the crisis.

The four overarching goals of the project are to:

- Evaluate the impact of COVID-19 on reading and mathematics learning outcomes by reporting against SDG indicator 4.1.1b
- Identify the impact of different distance learning mechanisms put in place to remediate the learning disruption generated by COVID-19
- Expand the UIS bank of items for primary education
- Generate a toolkit to scale assessment results to international benchmarks, reporting against SDG 4.1.1.b.

This note provides supplementary information to the MILO Main Report (UIS & ACER, 2022). Details on the Assessments for Minimum Proficiency Levels (AMPL) reading and mathematics assessments used in the MILO project can be found in Chapters 2 and 3 of the MILO Main Report. The reading and mathematics results can be found in Chapter 4 of the MILO Main Report. This concept note provides information on the reporting of the proportion of students reaching the Minimum Proficiency Levels (MPLs) in 2019 as reported in the MILO project and in PASEC (Programme for the Analysis of Education Systems) regional assessment in 2019.

This concept note was developed in collaboration between ACER, UIS and PASEC. Information on the PASEC assessment was obtained through PASEC reports (CONFEMEN, 2015), PASEC data and assessments and through communications with the PASEC team.

## Reporting in AMPL and PASEC

The AMPLs used in the MILO project in 2021 were designed to measure the proportion of students meeting the SDG 4.1.1 MPL for the end of primary school in reading and mathematics. Of the six countries that participated in the MILO project, four Francophone countries (Burkina Faso, Burundi, Côte D'Ivoire and Senegal) participated in the PASEC (Programme for the Analysis of Education Systems) regional assessment in 2019. In 2019, CONFEMEN provided estimates of the percentage of students meeting the MPLs for the end of primary school in the 2019 PASEC assessment. In the MILO project, the PASEC assessment 2019 data was equated to the AMPL scale so that a direct comparison could be made between the proportions of students reaching the MPL in

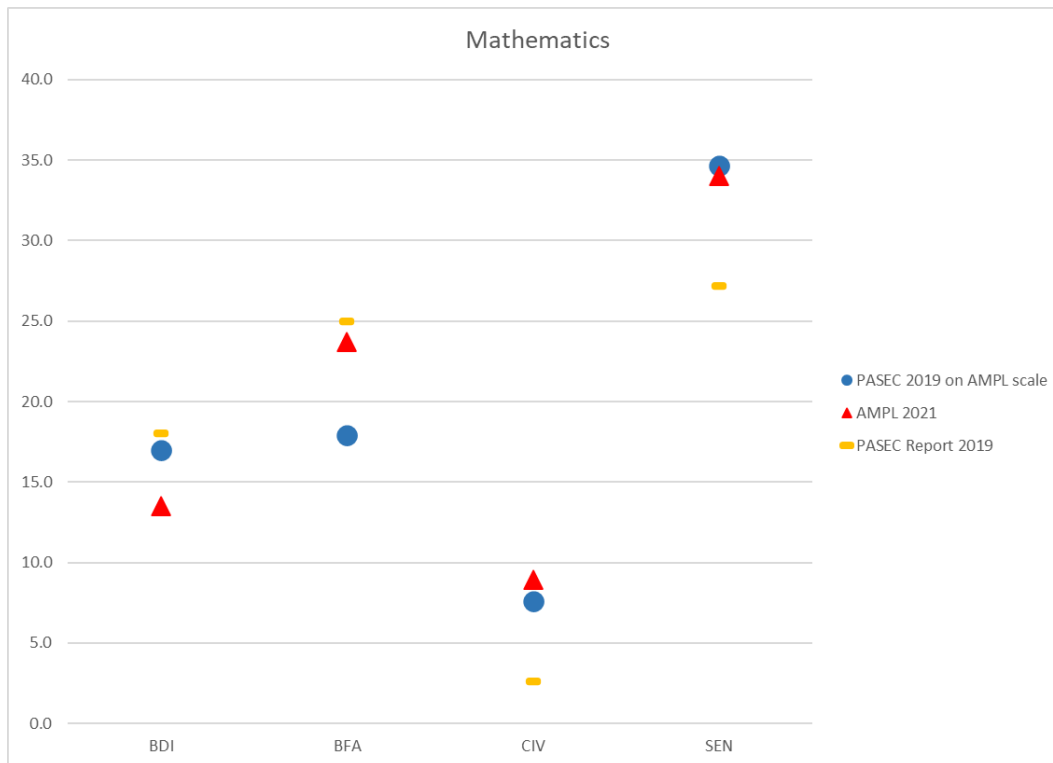
2021 and 2019. Technical details on the equating process referred to in this not can be found in Appendix B of the MILO Main Report (UIS & ACER, 2022).

Figure 1 shows the proportion of students meeting the MPLs for reading and Figure 2 shows the proportion of students meeting the MPLs for mathematics in the four Francophone countries. The red triangles show the percentage of students reaching the MPL as reported in AMPL in 2021. The yellow bars show the percentage of students reaching the MPL as reported in the PASEC 2019 cycle. The blue circles show the proportion of students reaching the MPL in the PASEC 2019 assessment estimated using the AMPL scale. Using the information in these figures, it is possible to compare the proportion of students that met the MPL in 2019 as reported by PASEC to the proportion of students that met the MPL in 2019 as on the AMPL scale.

The proportion of students reported as meeting the MPL in 2019 for AMPL and PASEC was more similar for mathematics (Figure 2) than for reading (Figure 1). That is, for mathematics, the difference between the yellow line and blue circle for each country is not large but for reading the gap is greater, especially for Burkina Faso, Côte D'Ivoire and Senegal.



**Figure 1: Proportion of students reaching the end of primary MPL as reported by AMPL and PASEC for reading**

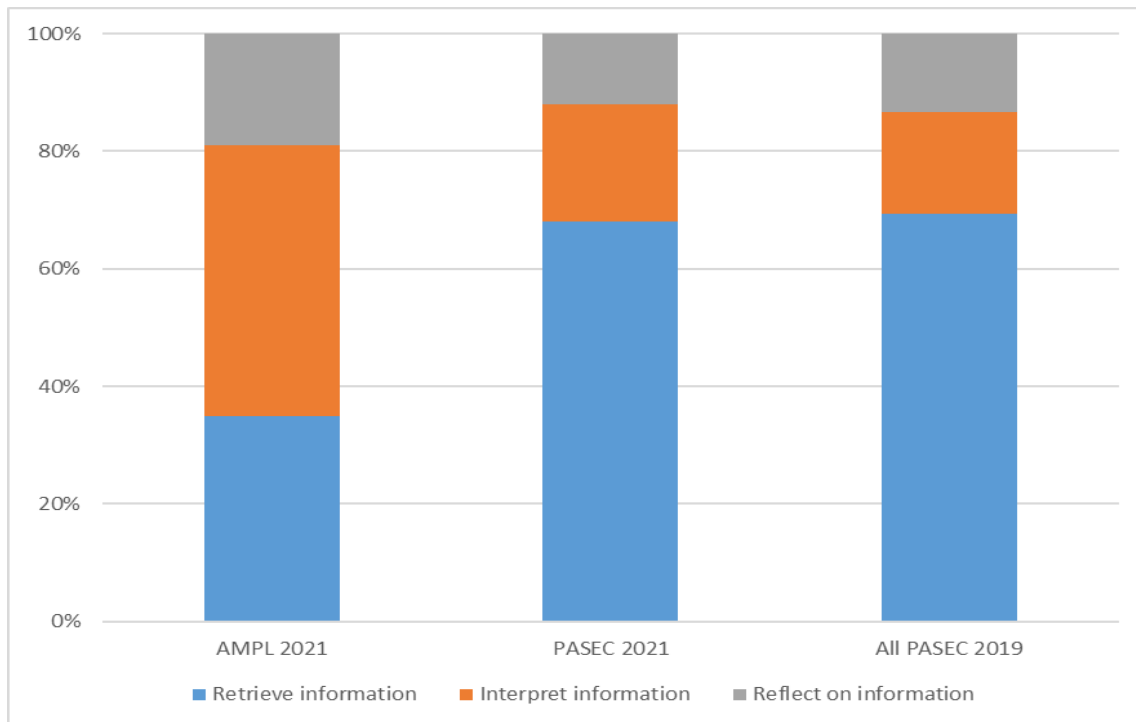


**Figure 2: Proportion of students reaching the end of primary MPL as reported by AMPL and PASEC for mathematics**

## Assessment content of PASEC and AMPL

To investigate these results, ACER and PASEC compared the content of the PASEC and AMPL assessments. For reading, differences were found in the parts of reading that were assessed in the AMPL and PASEC. As explained in Chapter 2 of the MILO Main Report (UIS & ACER, 2022), the AMPL was based on the constructs that comprise the domain of Reading comprehension, as defined by the Global Proficiency Framework (GPF) for Reading: Retrieve information, Interpret information and Reflect on information (USAID et al., 2020a). It included items focusing on each of retrieving information (34%), interpreting information (48%) and reflecting on information (17%).

As explained in Chapter 1 of the MILO Main Report (UIS & ACER, 2022), a set of PASEC items was administered alongside the AMPL assessment. These items were classified in the same way as the AMPL items. In Figure 3 and Figure 4, these items are referred to as the “PASEC 2021” items. To explore whether the “PASEC 2021” items were representative of the whole set of material, the full set of PASEC 2019 material was also classified using the GPF. In Figure 3 and Figure 4, this set is labelled as “All PASEC 2019”.



**Figure 3: Breakdown of reading assessment content for AMPL, the PASEC items administered alongside AMPL and all items from PASEC 2019**

As can be seen in Figure 3, the AMPL and PASEC assessments contained different proportions of items within the three categories of the Reading assessment. The AMPL focused on items requiring interpretation and reflection (with a lesser focus on items requiring the retrieval of information), whereas the PASEC items had a major focus on items requiring students to retrieve information, with less emphasis given to items requiring interpretation, and, in particular, reflection.

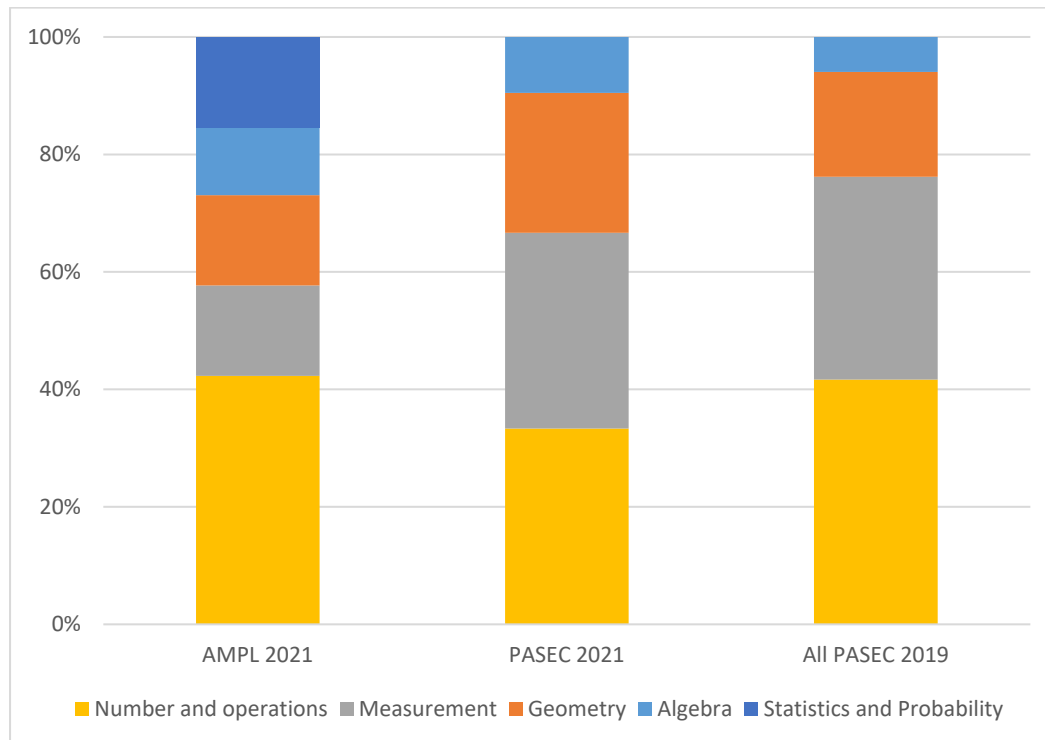
The AMPL assessment was designed to be strongly aligned to the GPF. An assessment is considered strongly aligned, and therefore, suitable for reporting against SDG 4.1.1b when there are at least five items that assess the construct retrieve information and at least five items that assess the construct *interpret information*. Additionally, as a set, the items should cover at least 50 per cent of the Reading sub-constructs defined in the GPF.<sup>1</sup> The targets for the AMPL allow this specification to be met. Table 1 shows the classification of the items in the assessment against the specified targets, revealing that the final selection was closely aligned to the targets. Appendix C in the MILO Main Report (UIS & ACER, 2022) provides further detail about the constructs and sub-constructs in the GPF.

<sup>1</sup> From SDG 4.1.1 Review Panel: March 2021.

**Table 1: Final AMPL reading items by construct**

Construct	Items in AMPL (no.)	Items in AMPL (%)
Retrieve information	10	34
Interpret information	14	48
Reflect on information	5	17

Note: Due to rounding, percentages do not add to 100%.



**Figure 4: Breakdown of mathematics assessment content for AMPL, the PASEC items administered alongside AMPL and all items from PASEC 2019**

For mathematics, as shown in Figure 4, there is a similar proportion of Number and operations items across the AMPL and PASEC assessments. However, the distribution of the other domains differs significantly between PASEC and AMPL. There are roughly equal numbers of Measurement items as Geometry items in the AMPL, but more Measurement items than Geometry items in PASEC. The biggest difference in terms of domain coverage is that the PASEC assessments does not contain any items in the Statistics and Probability domain, whereas the AMPL contains about 14% of items in the domain. The PASEC assessment was designed to cover the curriculum covered in Grade 6 PASEC countries. As statistics and probability was not covered in the curriculum, it was therefore excluded from the assessment.

Like Reading, the decision on which domains were included in AMPL was determined by the Global Proficiency Framework (GPF) (USAID et al., 2020b). The GPF advisory group on alignment specified that to be considered 'strongly aligned' with the GPF, an assessment needs to include:

- at least five items from the Number and operations domain

- at least five items from the Measurement and Geometry domains
- at least five items from the Statistics and probability, and Algebra domains
- a total of 50% of all the sub-constructs in the mathematics GPF that are relevant to the target grade level. For example, if there are 20 sub-constructs at end of primary level, at least 10 of the sub-constructs should be included in the assessment.

Table 2 shows the classification of the final mathematics items in the AMPL assessment against a set of target percentages, which allow these specifications to be met. It shows that the final percentages in AMPL were closely aligned with the targets.

**Table 2: Final AMPL mathematics items by domain**

Domain	Items in AMPL (no.)	Items in AMPL (%)
Number and operations	12	41
Measurement	4	14
Geometry	5	17
Statistics and probability	4	14
Algebra	4	14

## Commentary

Differences between the content of PASEC 2019 and AMPL 2021 are likely contributing to the different estimates reported by PASEC and MILO of the proportion of students meeting or exceeding the MPL in 2019. The content of the AMPL is strongly aligned to the GPF which was published in 2020, whereas the content of the PASEC assessments was determined in the PASEC round reported in 2014, at least a year before the SDGs were formulated. The same content in PASEC 2014 was used in PASEC 2019 which focused on the content students in the PASEC countries were expected to obtain in Grade 6.

Another factor in the differences in the estimates reported by PASEC and AMPL of the proportion of students meeting or exceeding the MPL in 2019 is the different standard setting methods. The cut-points for the MPLs on the AMPL scale were determined from a standard setting exercise undertaken with the MILO participating countries in 2021 (see MILO Main Report Appendix A) (UIS & ACER, 2022). The MPL cut-points for PASEC were determined from proficiency levels applied to the empirical achievement scale. The PASEC assessments and associated proficiency levels considered the content that students would be expected to be familiar with at the end of Grade 6 and were used to describe the range of abilities found in the populations that PASEC targeted.



## References

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