

COVID-19 in Sub-Saharan Africa: Monitoring Impacts on Learning Outcomes

BURUNDI REPORT



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List of abbreviations

ACER	Australian Council for Educational Research
AMPL	Assessments for Minimum Proficiency Levels
CONFEMEN	The Conference of Ministers of Education of French-Speaking Countries
DFAT	Department of Foreign Affairs and Trade
GEM	Global Education Monitoring
GPE	Global Partnership for Education
MILO	Monitoring Impacts on Learning Outcomes
MPL	Minimum Proficiency Level
OECD	Organisation for Economic Co-operation and Development
PASEC	Programme for the Analysis of Educational Systems
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
REDS	Responses to Educational Disruption Survey
SDG	Sustainable Development Goal
UIS	UNESCO Institute for Statistics
UNESCO	The United Nations Educational, Scientific and Cultural Organization

Introduction

Six African countries participated in the COVID-19: Monitoring Impacts on Learning Outcomes (MILO) project in 2021 – Burundi, Burkina Faso, Côte d’Ivoire, Kenya, Senegal and Zambia. This report presents the key findings from the MILO project for Burundi. The cross-national findings from all six participating countries are provided in the MILO Main Report (UIS & ACER, 2022).

The MILO study was designed to provide information on the impact of the pandemic on learning outcomes. As countries work towards achieving Sustainable Development Goal (SDG) 4.1.1b,¹ it is essential that progress towards this goal continues to be monitored. The MILO project was implemented to provide a way for countries to measure learning progress against SDG 4.1.1b prior to, during and after the pandemic.

The four overarching goals of the MILO project were 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 caused by COVID-19
- expand the UIS bank of items for primary education assessments
- generate a toolkit to scale assessment results to international benchmarks, reporting against SDG 4.1.1b.

The MILO study is a UNESCO Institute for Statistics (UIS) project and was funded by the Global Partnership for Education (GPE). The Australian Council for Educational Research (ACER) was the technical partner. Technical and implementation support was provided by The Conference of Ministers of Education of French-Speaking Countries (CONFEMEN), to the four francophone countries (Burkina Faso, Burundi, Côte d’Ivoire and Senegal). A National Centre was responsible for implementing the project within each country. In the case of Burundi, the MILO project was implemented by the Ministry of Education.

Study design

The MILO project used Assessments for Minimum Proficiency Levels (AMPL-b) to estimate learning outcomes in reading and mathematics at the end of primary schooling. These learning outcomes were reported as the proportion of students in the target grade who met the minimum proficiency levels (MPLs) referred to in SDG 4.1.1b:

¹ The proportion of children and young learners ... at the end of primary ... achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex. (United Nations, 2015)

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In Burundi, the AMPLs were administered in French to a representative sample of Grade 6 students in schools from 1 to 5 June 2021. The results of these assessments were compared with historical assessment data collected from an equivalent student cohort prior to the COVID-19 outbreak. The historical assessment was the Programme for Analysis of Educational Systems (PASEC) 2019 (CONFEMEN, 2020). This comparison enabled the impact of the pandemic on learning outcomes to be quantified.

To assist in the interpretation of the assessment results, contextual data were collected through questionnaires:

- a Student Questionnaire – given to the same students who completed the AMPL tests)
- a School Questionnaire – completed by school principals or their delegates
- a System Questionnaire – completed by respondents at the national level.

The questionnaires focused on the main COVID-19 disruption period, as identified by each country on the basis of when there was the most disruption to education. Burundi identified January to 28 February 2020 as their main COVID-19 disruption period.

Report outline

In this report on the MILO results for Burundi, sampling outcomes are first provided, including a comparison of key characteristics of the Burundi populations participating in 2019 and 2021 assessments. Next, the learning outcomes in reading and mathematics are presented for Burundi, for boys, girls and for all participants. This report provides the achievement outcomes by explicit strata, showing achievement results by sub-region. Subsequently, the contexts of learning during the COVID-19 pandemic are first presented, including at the national education system level, school level and student level. Finally, the report concludes with a discussion of the outcomes and recommendations for strengthening the resilience of the education system.

The MILO Main Report complements this Burundi report. It provides more detail on the MILO project background and instruments and provides the cognitive and contextual results for all six countries that participated in the MILO project.

Sampling outcomes

The Burundi school participation rate in the MILO study was extremely high. There were 252 schools that participated, with a 100 per cent response rate. Similarly, there

was a very high student response rate. There were 4,993 students who undertook the assessment, with a 95 per cent response rate.²

To ensure that achievement results between the AMPL 2021 and PASEC 2019 were comparable, it was important that the two populations had similar characteristics. Comparative data based on the following categorical variables for both populations can be seen in Table 1. These variables were family wealth, gender, age, maternal and paternal literacy and school type. The characteristics of the population were similar across the two assessments, with some differences. The most prominent difference was the different rates of maternal and paternal literacy, with the AMPL sample being 12 and 10 percentage points greater, respectively, compared to PASEC 2019.

Table 1: Burundi student and home background characteristics of historical 2019 assessment and AMPL 2021

	AMPL 2021	PASEC 2019	Difference (AMPL 2021-PASEC 2019)
AMPL–National assessment wealth index (logits)	-1.73	-1.82	-0.09
Gender (% girls)	56%	56%	0%
Age (years)	14.4	14.7	-0.3
Maternal literacy	49%	37%	12%
Paternal literacy	83%	73%	10%
School type (% public)	98%	94%	-4%

Learning outcomes

To measure the impact of the COVID-19 disruption on learning outcomes, the reading and mathematics achievement results in 2021 were compared to those from 2019. Achievement results in reading and mathematics are reported in terms of the percentages of students who reached or exceeded the MPLs for upper primary for girls and boys, as well as overall.

A standard-setting exercise was conducted to establish the MPLs for students at the end of primary schooling. This determined the score in the AMPL associated with the minimum level of skill or knowledge required to meet the MPL for SDG 4.1.1b. Appendix A of the MILO Main Report provides further details on how the MPL was established.

The percentages of students from Burundi who met or exceeded the reading and mathematics MPLs in 2021 is shown in Table 2. The table also shows the percentages of students who met or exceeded the MPLs in 2019. For all students there was no statistically significant difference in the proportion of students who met the MPL for reading and mathematics between 2019 and 2021. However, it is notable that in both

² The response rates are unweighted including substitutes.

2021 and 2019, there is a greater proportion of students meeting the MPL for mathematics than reading.

Table 2: Proportions of students who met or exceeded MPLs for reading and mathematics, AMPL and historical assessments, by gender, and percentage point difference for Burundi

Learning domain	2021 AMPL Students who reached or exceeded MPLs (%)			2019 PASEC Students who reached or exceeded MPLs (%)			Percentage point differences 2021 AMPL - 2019 PASEC		
	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls
Reading MPL	0.1	0.1	0.1	0.3	0.3	0.4	-0.2 [^]	-0.1 [^]	-0.3 [^]
Mathematics MPL	13.5	16.5	11.1	17	22	12.9	-3.5 [^]	-5.6 [^]	-1.8 [^]

[^] No statistically significant difference between AMPL and historical assessment

The learning outcomes were not homogeneous across the different regions of Burundi, as can be seen in Table 3. For mathematics, four of the eighteen provinces in Burundi had more than a fifth of the population that met or exceeded the MPL, with Cankuzo having the highest rate of 35.7 per cent. There were six provinces where less than 10 per cent of the population met or exceeded the MPL for mathematics.

The results for reading were very similar across all provinces, with all provinces having less than one percent of the population that met or exceeded the MPLs. Overall, a greater proportion of students met or exceeded the MPLs for mathematics (13.5 per cent) compared to reading (0.1 per cent).

Table 3: Proportion of students who reached or exceeded reading and mathematics MPL by region in Burundi

Province	Reading AMPL 2021 Students who reached or exceeded MPLs (%)	Mathematics AMPL 2021 Students who reached or exceeded MPLs (%)
Bubanza	0.0	10.7
Bujumbura	0.0	14.3
Bujumbura Mairie	0.3	23.0
Bururi	0.0	6.3
Cankuzo	0.3	35.7
Cibitoke	0.0	7.1
Gitega	0.0	14.0
Karusi	0.1	25.4
Kayanza	0.0	5.3
Kirundo	0.3	25.9
Makamba	0.7	16.1
Muramvya	0.0	7.8
Muyinga	0.1	16.7
Mwaro	0.0	11.0
Ngozi	0.0	4.1
Rumonge	0.0	7.0

Rutana	0.0	15.5
Ruyigi	0.0	14.0
Burundi	0.1	13.5

Contexts of learning during the COVID-19 pandemic

National contexts

The MILO System Questionnaire was completed by a senior government official nominated by the National Centre who provided information about the education policies and programs implemented in Burundi. This information was complemented by other sources from publicly available literature on the impact of COVID-19 on schooling in Burundi.

At a national level, schools in Burundi remained open throughout the pandemic. However, there was some disruption to education, such as increased teacher and student absenteeism during the pandemic.

The Burundi Ministry of Public Health advised educators and learners in schools to implement social distancing, wear masks and follow hand washing protocols. Whilst handwashing protocols were implemented, social distancing and mask wearing were deemed impractical, largely due to resource constraints. For example, up to 100 students could be in a classroom (Development and Cooperation, 2021).

School and classroom contexts

Principals in Burundi were asked to indicate how the pandemic affected schooling, teaching and learning. This section describes the proportion of students who attended schools where the principal reported issues related to operational circumstances during COVID-19, the limitations to providing remote instruction and strategies to overcome these limitations, student health and wellbeing, and returning to school. For example, when asked about the COVID-19 disruption, 92 per cent of students attended schools where the principal indicated the school continued to provide access for specific grade levels.

Operational circumstances during COVID-19

Despite schools at a nation-wide level remaining open, principals indicated through the MILO School Questionnaire that not all schools remained open throughout the COVID-19 disruption in Burundi. Amongst principals who reported their school had closed, the groups of students with the highest rates of access to school buildings were:

- students with special needs (92%)

- students from selected grade levels (92%)
- children of essential or critical workers (78%)
- students who were considered at risk (74%).

Among schools that closed, eighty-six per cent of students attended schools whose principal reported that some or all teachers were onsite. Most students in Burundi continued to have access to school buildings. However, amongst those that did not, only 16 per cent attended schools where the principal reported offering remote learning programs to all students.

Just over 92 per cent of students attended schools where the principal reported that they were not prepared for providing remote instruction if their school buildings were closed to students for an extended period in the future. This indicates that Burundi has the opportunity to support schools to provide remote instruction in the case of future education disruptions.

Limitations to remote instruction and strategies to overcome barriers

Principals who indicated that their school closed were asked to indicate the extent that their school's capacity to deliver remote instruction was limited by any one of ten options. The most common limitations indicated were:

- lack of learning materials (33%)
- teachers' lack of digital devices (25%)
- students' lack of digital devices (25%)
- teachers' lack of internet access (25%)
- students' lack of internet access (25%)
- concerns about providing equitable teaching (25%).

The least reported limitation was an inability to communicate, with only nine per cent of principals reporting this.

Strategies were implemented to minimise the impact of the pandemic on teaching and learning. The most common strategies, rated by principals as important or very important, were:

- engaging the broader community (25%)
- communication between staff and students (25%)
- communication between staff and families (25%)
- additional staff professional development (25%)
- distributing learning materials (25%).

Support for teachers

Support was provided or promoted to teachers to assist them in supporting students and themselves. The most common forms of support were:

- formal support networks, such as counselling services (52%)
- peer support (48%)
- training in the support of social and emotion health of others (36%)
- access to physical activity resources (34%)
- accommodation for teachers who are primary carers and have children at home (27%).

The least common form of support was providing or promoting informal or social events, such as book club, with only 17 per cent of principals reporting this.

In response to the pandemic, teachers in Burundi were also provided with a range of professional learning activities. The most common activities were:

- methods for preventing the spread of infectious diseases, such as through hand washing (31%)
- methods to engage with families to support their child's wellbeing (16%)
- student wellbeing (12%)
- teacher wellbeing (12%).

The least common professional learning activities were:

- support for providing remote student instruction without using digital technologies (e.g. providing print material) (6%)
- teaching specific content remotely (e.g., literacy, numeracy) (4%)
- support for providing remote student instruction using digital technologies (3%).

Student health and wellbeing and returning to school

Throughout the pandemic, many students attended a school that undertook activities to support student health and wellbeing. The most common activities were:

- checking in with students (83%)
- contacting families (68%)
- providing specific support to students (56%).

Visits to students' homes were relatively uncommon; only 18 per cent of students attended schools where the principal reported this strategy was used.

In preparing for regular teaching after the COVID-19 disruption, schools in Burundi made various provisions. Most frequently these involved:

- additional monitoring of students' health and safety (91%)
- offer additional support to families regarding student well-being (60%)
- spend time going over material previously covered prior or during the disruption (58%).

The least common provision was requiring or encouraging students to repeat a grade level, with 10 per cent of principals reporting this.

Principals were asked about their concerns after the COVID-19 disruption. They reported concern about all four options, which were:

- students' health and wellbeing (90%)
- students' academic progress (89%)
- the ability of staff to cope (87%)
- the principal's own ability to cope (85%).

Student contexts

A student's context, including their home environment and the level of support that they are provided, can shape their achievement levels (Çiftçi & Cin, 2017; Cullinane & Montacute, 2020). The resources that students have access to at home can greatly mediate the effects of disruptions to learning resulting from COVID-19 (Cullinane & Montacute, 2020; Reimers & Schleicher, 2020). Hence, the effect size of various factors related to student characteristics, home environment and support are analysed and compared.

An effect size is a measure of the strength of the relationship between two variables using a standardised difference. The stronger the effect size, the stronger the relationship between the variables of interest (e.g. family wealth) and the outcome variable (e.g. mathematics proficiency). Eight indices were created based on a collection of related items from the Student Questionnaire. These indices are student anxiety, student disability, family wealth, parental education, parental literacy, family support, teacher support, and school support. The MILO Main Report (UIS & ACER, 2022) provides further details about the effect sizes and specific scales constructed.

As can be seen in Figure 1, family wealth, parental education and parental literacy all have a relatively strong relationship with student proficiency in mathematics, and even more so, in reading. Students from wealthier families, as well as those with more literate and better educated parents, exhibited higher levels of proficiency than other students.

The relationship between factors related to personal characteristics, such as student anxiety, and the school environment, such as teacher and school support, tended to exhibit a weaker relationship with proficiency. This is consistent with meta-analytical

research indicating that the home environment has the largest impact on student achievement (Hattie, 2008).

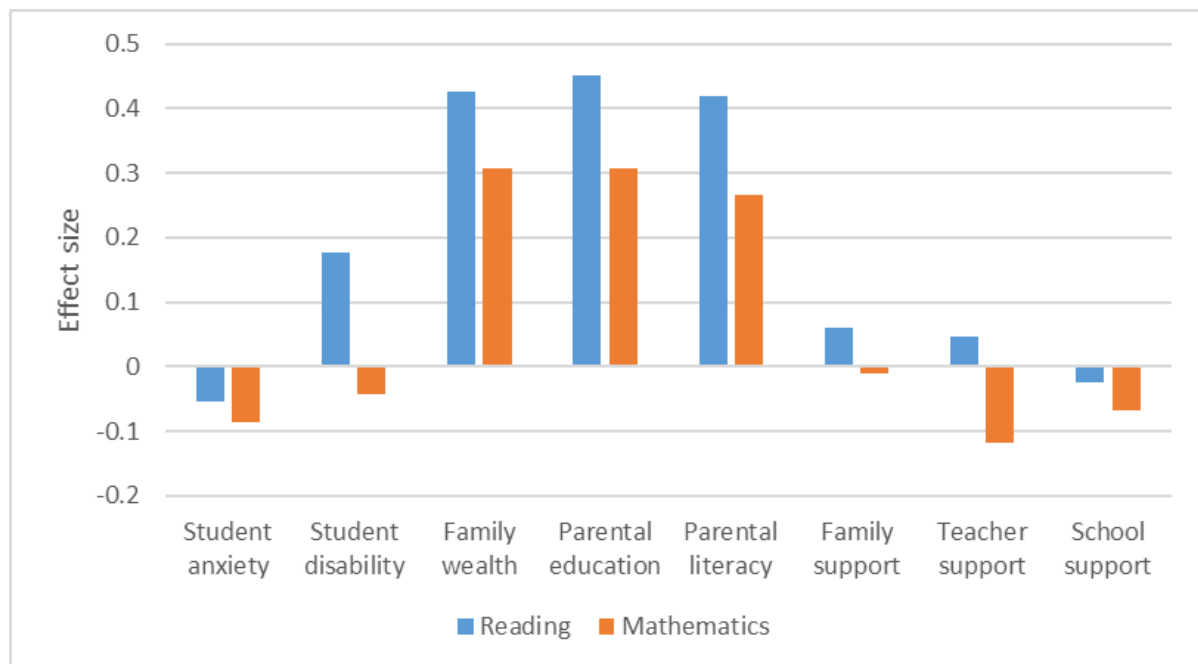


Figure 1: Reading and mathematics proficiency shown against the eight indices created from the Student Questionnaire

Conclusion

It is encouraging that Burundi students and schools demonstrated resilience in the face of the COVID-19 education disruption. Learning outcomes for reading between 2019 and 2021 remained steady. This is likely explained by the absence of nation-wide school closures. However, the AMPL did not measure the effect of the pandemic on students' health and wellbeing, including their social and emotional development, which may have been at great risk during the COVID-19 disruption.

The MILO contextual findings provide insights into how learning progress in Burundi can continue to improve. The three recommendations presented below are elaborated on in the MILO Main Report:

- **Prepare for the provision of effective remote teaching and learning for future disruptions.** It was widely reported by principals in Burundi that they were not prepared for future disruptions to education. Remote teaching needs to reflect the low technology environment of many families in Burundi, building on the strengths indicated by principals related to communication with families and teachers. However, planning needs to incorporate how barriers to remote education can be overcome through broadening access to and use of technology.
- **Continue to emphasise supporting the wellbeing of the school community.** Principals in Burundi were concerned about their own wellbeing, the wellbeing of teachers, and above all, student wellbeing. Although activities were taken to

support wellbeing, such as checking-in with students, these could be supplemented with more targeted support. All students can benefit from the targeting and tailoring of support to their needs.

- **Ensure that there are effective systems in place to continue to monitor learning outcomes.** The targeting of support aimed at both wellbeing and student learning can be greatly assisted through effective monitoring of student outcomes. For example, in addition to collecting data related to mathematics and reading, other domains could be monitored, such as social and emotional learning. At the classroom-level and school-level, assessments can provide helpful feedback to students, parents and teachers, informing them of progress, what to work on and how to reform practices. System-level information can be collected through participation in national, regional or international assessments. The MILO project has provided tools, methods and capacity development to support Burundi's monitoring system. This includes using the AMPL to monitor Burundi's progress towards achieving SDG 4.1.1b.

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