KIX Observatory on COVID-19 Responses in Africa's Educational Systems

April 2022

LEARNING ASSESSMENT
DURING THE COVID-19
PANDEMIC IN AFRICA

Produced by:

- Association for the Development of Education in Africa (ADEA)
- African Union's International Center for Girls' and Women's Education in Africa (AU/CIEFFA)
- African Population and Health Research Center (APHRC)

Learning assessment during the COVID-19 pandemic in Africa

ADEA, AU/CIEFFA and APHRC

Suggested Citation

ADEA, AU/CIEFFA, & APHRC (2022). *Learning assessment during the COVID-19 pandemic in Africa*. Abidjan, Ouagadougou, Nairobi: ADEA, AU/CIEFFA, APHRC.

About the Observatory

The KIX COVID-19 Observatory is supported by the Global Partnership for Education (GPE) Knowledge and Innovation Exchange (KIX), through the International Development Research Centre (IDRC). The views expressed herein do not necessarily represent those of GPE, IDRC, or its Board of Governors.

The Observatory is monitoring the policy and practice responses to COVID-19 in the education systems of 40 GPE partner countries in Africa and is collecting emerging research evidence on the topic. It focuses on the pandemic's impact on the functioning of education systems and the well-being of learners.

The Observatory is implemented by a consortium consisting of ADEA and AU/CIEFFA. Technical support is provided by APHRC and the UNESCO Institute for Statistics.

For more information

See: www.adeanet.org/en/kix-observatory

Contact: kixobservatory@adeanet.org and kixobservatory@cieffa.org

Photo: GPE, Rwanda, July 2021

Table of Contents

Abbreviations

ADEA   Association for the Development of Education in Africa
APHRC   African Population and Health Research Center
AU/CIEFFA   African Union's International Centre for Girls' and Women's Education in Africa
CGD   Center for Global Development
CLA   Citizen Led Assessment
DLS   Distance Learning Solutions
EdTech   Education Technology
EGMA   Early Grade Mathematics Assessment
EGRA   Early Grade Reading Assessment
GPE   Global Partnership for Education
ICT   Information and Communication Technology
IDRC   International Development Research Centre
KIX   Knowledge and Innovation Exchange
KNEC   Kenya National Examinations Council
MILO   Monitoring Impacts on Learning Outcomes
MINISEC   Ministry of Secondary Education
MPL   Minimum Proficiency Levels
MoE   Ministry of Education
NAPE   National Assessment of Progress in Education
NTT   National Technical Team
OAA   Optimizing Assessment for All
PISA-D   Program for International Student Assessment for Development
SACMEQ   Southern and Eastern Africa Consortium for Monitoring Educational Quality
SSA   sub-Saharan Africa
UCE   Uganda Certificate of Education
UN   United Nations
UNESCO   United Nations Educational, Scientific and Cultural Organization
UNICEF   United Nations Children's Fund
USSD   Unstructured Supplementary Service Data
WASSCE   West African Secondary School Certificate Examinations

Executive Summary

In education, assessment is an important tool for tracking the academic performance and learning progress of students. The assessment also helps determine the effectiveness of teaching and the various needs of an education system. Learning assessments provide schools and teachers with an understanding of what the students are learning, and how to adopt measures that promote effective teaching (Education Endowment Foundation, 2020; Liberman, Levin, & Luna-Bazaldua, 2020).

The COVID-19 pandemic and the accompanying school closures, complicated traditional methods of measuring student progress which largely relied on pencil and paper assessment and the physical presence of learners. Despite this, education stakeholders have emphasized the need for the continuation of learning assessment as a way to inform effective teaching and recovery from the negative impacts of the pandemic. This report synthesizes learning assessment practices during school closures and after their reopening among partner countries in the Global Partnership for Education (GPE).

Methodology

Using rapid scoping reviews, evidence mapping, and the team's expert knowledge on learning assessment and examinations in sub-Saharan Africa (SSA), we tracked learning assessment measures undertaken in response to the pandemic and reviewed emerging evidence on this topic. We did so through searches of published literature, reports, and data from various online libraries, education databases, and key institutional websites of national, regional, and global education stakeholders. The evidence was tracked using an online spreadsheet. In this paper, we focus on assessment practices and delivery during school closures; high-stakes examinations; learning loss; assessment challenges during the COVID-19 pandemic, as well as emerging evidence.

Learning assessment measures during the COVID-19 pandemic

The review showed that during school closures, GPE countries tried to monitor the learning of students using a variety of approaches through distance learning solutions (DLS) and other measures, but they did so in a limited manner. Countries also made various adjustments to the scheduling of high-stakes national examinations, and they tried to put in place some measures to assess and mitigate learning loss once schools reopened. The policy and practice responses among GPE countries were noted in four inter-related areas: assessment practices, assessment delivery, high-stakes national examinations, and learning loss. The first two of these were integrated into the various DLS solutions.

Assessment practices:

During school closures, the most common assessment practices included homework, assignments, use of study packages and revision materials, and quizzes (such as the end of lesson evaluation quizzes). These did not differ from those used before the pandemic, except in terms of their mode of delivery. While all GPE partner countries adopted some form of learning monitoring and assessment during school closures, there is little evidence on the extent to which these practices were implemented and how effective they were. Further, even though teachers assigned tasks to students to monitor their learning, the feedback loops on the learning effectiveness of these tasks were weak or non-existent, since learning took place through TV, radio, and take-home packages. Lastly, during school closures, more emphasis was placed on parental involvement in guiding children on assigned tasks and thereby monitoring their learning in comparison to pre-pandemic times. The tasks requiring parental involvement were in the form of revision exercises, content coverage, and quizzes.

Assessment delivery approaches:

While the type of assessment practices did not differ from those used before the pandemic, they differed in terms of their delivery approaches. Instead of in-person delivery, they were delivered through live or pre-recorded lessons (e.g., radio and TV), social media (e.g., WhatsApp), specialized academic platforms (e.g., Khan Academy, Seesaw, and EdoBEST), mobile phone short messaging services, and web-based platforms (e.g., Zoom and Google Meet). Internet-based delivery mechanisms were mostly practiced by private schools. Additionally, the traditional hard print materials (e.g., take-home packages) were used widely in the delivery of homework and quizzes among public school students and were practiced by 20 GPE partner countries. The use of digital solutions in particular presented barriers for those who did not have access to the internet (UNESCO, 2022).

High-stakes examinations:

Different countries responded in various ways to the holding of national examinations which are typically taken on-site and used to evaluate the effectiveness of education systems and screen students for the next level of schooling. Eight countries administered examinations as scheduled, 19 countries postponed and rescheduled exams, and six countries canceled the exams for the 2020 school calendar year. To mitigate learning loss, especially among examination candidates, 65% of the GPE partner countries in Africa practiced partial school reopening. Moreover, to increase contact time as well as reduce loss of class time and learning, 60% of the countries initiated remedial programs, while 25% increased class time.

Learning loss:

One-third of the GPE partner countries in Africa planned to assess learning loss once schools reopened. However, at the time of writing this paper, it was not clear whether this took place. Perhaps the most elaborate and coordinated effort to understand the impact of COVID-19 on learning is the Monitoring Impacts on Learning Outcomes (MILO) project by UNESCO, in collaboration with the education ministries in six sub-Saharan GPE partner countries: **Burundi**, **Burkina Faso**, **Côte d'Ivoire**, **Kenya**, **Senegal**, and **Zambia** (UNESCO, 2022). The results showed a minimal effect of COVID-19 on reading and mathematics in comparison to 2019 (pre-pandemic) and 2021 minimum proficiency levels. There was however some evidence that boys in Kenya exhibited learning loss and that parental education (at least secondary education) had a positive impact in mitigating learning loss.

Challenges in learning assessment

Countries faced numerous challenges in assessing learning during the COVID-19 pandemic. Key challenges included:

- Lack of guidelines on how to monitor and assess student learning during prolonged school closures, coupled with education systems that were poorly prepared to respond to the need for assessment during crises and beyond the classroom.

- Limited access to innovative instruments for assessment during emergencies, for example, the use of digital tools and the adoption of education technology for learning and assessment.

- Limited capacities of teachers and students to manage distance learning and adopt technology in learning and assessment.

- Absence of baseline information from which to gauge learning loss.

- Inadequate provisions for assessing vulnerable groups such as girls and boys in difficult circumstances and/or children with special learning needs. Armed conflicts like those in **Nigeria** and natural disasters also contributed to the disruption of education and assessment delivery.

Emerging research

The COVID-19 pandemic threatened to reverse gains made in the education sector as well as to exacerbate learning poverty. Its effects remain largely unknown, with current efforts geared towards understanding the magnitude of learning loss. Emerging research is focusing on two areas: how much students lost due to school closures; and leveraging technology to conduct assessments in a manner that includes all learners and adheres to quality standards and ethical considerations.

Emerging evidence on learning loss shows that almost one-half of the students did not benefit from distance learning solutions as they had little access and preparation, with those in rural populations hugely disadvantaged. Notably, among the 16 low-income countries including the GPE partner countries in Africa, 75% of students reported that they received support from their teachers during the school closures, showing that there was some form of monitoring of learning. Research projections indicate an increase of learning poverty of up to 10% in developing countries and over 20% in some low-income GPE partner countries including those in the Sahel region[1] (Azevedo, 2020; Conto et al., 2020). UNESCO (2021a) estimates that globally, 100 million children will likely fall below the minimum fluency level in reading due to the COVID-19 disruptions to learning. Learning poverty is likely to be high among girls, and children with special needs. Disruptions in children's learning trajectories are huge with vulnerable children experiencing more learning losses during the COVID-19 pandemic (Spiteri, Deguara, Muscat, et al., 2022).

Assessing learning in the context of DLS remains a challenge and is still underdeveloped, with limited evidence on its efficiency and effectiveness. Some evidence shows that phone-based assessments do not allow for a wide range of test items and hence are not comprehensive and may further exclude learners with limited access to phones. Emerging evidence also shows the low effectiveness of education technology in improving learning. In **Sierra Leone**, live tutoring and assessment using phone calls had a small positive effect on participation in schooling, but no effect on learning outcomes. However, the intervention provides useful lessons on the use of technology in learning and assessment.

Recommendations

For many GPE partner countries in Africa, the shift to distance learning was widely practiced, though it provided few options for assessing students. Given this, we recommend GPE partner countries and education development actors consider the following measures:

1. ***Development of guidelines or policies on how to monitor the learning of students during periods of prolonged school closure.*** This will provide frameworks and guidelines on how students can be monitored and assessed while promoting inclusivity. These policies need to appreciate the need to move beyond physical classrooms, should recognize inequality of access to remote learning, promote the use of hybrid systems, and anticipate the resources required to realize such initiatives.

2. ***Building the capacity of teachers and schools*** on the use of digital technology for the assessment of learning is needed in GPE partner countries. Critical areas for capacity building include: (i) mainstreaming digital technology in the assessment systems; and (ii) enhancing the resilience of the education system to adequately respond to assessment needs.

---

[1] In the Sahel region, COVID-19 disruptions to education were compounded by armed conflicts that drove millions of students out of school and into conditions that were not conducive for learning even where DLS facilities were available.

3. *Provide assistance to enhance parental capacity to support home learning for children caught up in similar circumstances to the COVID-19 pandemic:* This has to do with parental involvement in children's learning and achievement. Support can be provided by creating awareness and forging connections with schools on how to support learning.

4. *Blending and complementing in-person assessment processes with alternative approaches such as EdTech:* This is to reach more students and monitor learning during crises. For example, the use of technology by students and teachers can enhance the conduct of formative assessments. Additionally, technology can enhance self-evaluation as students are automatically scored and provided with solutions after completing an assessment. However, this should be treated with caution so as not to exclude students who have little or no access to EdTech.

5. *Continuous monitoring of learning loss:* It will be critical for countries to continue examining the impact of COVID-19 on learning outcomes by analyzing and comparing emerging assessment data with that from the pre-pandemic period.

1 Introduction

In education, assessment is an important tool for tracking student academic performance and learning progress as well as determining the effectiveness of teaching and the various needs of an education system. Learning assessments provide schools and teachers with an understanding of what the students are learning, and how to adopt measures that promote effective teaching (Education Endowment Foundation, 2020; Liberman, Levin, & Luna-Bazaldua, 2020).

The COVID-19 pandemic and the accompanying school closures disrupted traditional learning assessment practices which emphasized the physical presence of students, mostly in school, and in the presence of teachers. By implication, once learning is disrupted and/or discontinued, little or no assessment is expected to take place. Despite these challenges posed by the COVID-19 pandemic, some form of learning, through distance learning solutions (DLS), took place in most GPE partner countries in Africa (ADEA, AU/CIEFFA, & APHRC, 2021a), and countries undertook various measures to assess student learning. The purpose of this synthesis report is to review the different approaches adopted by countries to conduct learning assessments during the period of prolonged school closures brought about by the COVID-19 pandemic.

Learning goes hand in hand with assessment. However, 77 million children worldwide have missed out on being physically present in classrooms for the past 18 months, with only 35% of the total global school population represented in 117 countries being able to attend class (UN, 2021). After the long period of school closures due to the COVID-19 pandemic, education systems in GPE partner countries in sub-Saharan Africa (SSA) were negatively affected largely due to inadequate infrastructure for distance learning solutions (DLS).

In this synthesis, we first provide an overview of the experience of the pre-COVID-19 assessment frameworks in 40 GPE partner countries in Africa. We then document how education systems have approached learning assessment in the context of the COVID-19 pandemic, with particular attention on how the needs or learning of vulnerable groups of students are being addressed. In addition to categorizing the main policy and practice responses that GPE partner countries and their collaborators have prioritized, we identify key challenges they have faced in ensuring that learning is evaluated. We also examine what recent research on learning assessment can tell us about how these African countries are monitoring student learning. Based on our analyses of policy and practice responses, a series of recommendations are provided in the final section of the report.

From the synthesis of policy and practice responses, four broad responses are identified and examined thematically. They include: i) assessment practices; ii) delivery of these practices; iii) national examinations, and iv) assessment of learning loss once schools reopened. The review showed that GPE countries tried to monitor student learning through a variety of approaches including DLS and other solutions during school closures, but they did so in a limited manner. This can be attributed to limited guidelines and infrastructure to conduct learning assessments during school closures, as well as the limited capacity of teachers to undertake assessments through distance learning solutions. The review also found that the countries made various adjustments in the scheduling of high-stakes national examinations and they tried to put in place some measures to assess and mitigate learning loss once schools reopened.

This synthesis is one of several outputs of the COVID-19 Observatory of Knowledge and Innovation Exchange (KIX), which aims to provide policymakers in GPE partner countries with actionable evidence to inform their decisions. The Observatory collects, synthesizes, and mobilizes evidence about the COVID-19 policy and practice responses in primary and secondary education systems in 40 GPE partner countries within Africa, focusing on both the operations of these systems and the well-being of children.

The policy and practice responses related to learning assessment are tracked, and continue to be updated, using a live spreadsheet. The Observatory also tracks emerging research on COVID-19 education responses, including on interventions being tested and evaluated.

The authors of this report applied a systematic and exploratory approach to identify, gather, analyze, and synthesize information on policies and practices from multiple sources. Through scoping reviews, we sought to understand what past and emerging policies, practices, and reopening strategies have been used by various countries in response to COVID-19 education-related challenges. Though we have reviewed assessment frameworks that existed before the pandemic, the report roughly covers the period from the first quarter of 2020, when schools initially closed and assessments were disrupted, to the end of September 2021, when GPE partner countries, other than **Uganda**[2], had reopened and gone back to monitoring learning.

Sources of information included planning, policy, and programming documents of:

- Education ministries in GPE partner countries.

- Researchers and scholars based in universities and research institutions.

- Regional and global organizations, including the African Union, KIX regional hubs in Africa, GPE, the International Development Research Centre, UNESCO, UNICEF, and the World Bank.

---

[2] Uganda practiced partial reopening of schools in September 2020. However, in June 2021 due to upsurge of COVID-19 cases, the President directed the closure of all learning institutions. At the time of writing this report, basic institutions (pre-primary, primary and secondary) remained closed. Schools in Uganda re-opened fully in January 2022 with all students automatically promoted to the next grade and an accelerated curriculum put in place.

2 Assessment practices before the COVID-19 pandemic

To understand the context of the current responses in assessment policy and practice, it is important to reflect on assessment modalities before the COVID-19 pandemic. Before the pandemic, GPE partner countries in Africa:

- Assessed learning through formative and summative assessments, and informal assessments
- Conducted national examinations as well as large-scale and regional assessments

Before the pandemic, various frameworks for learning assessment emphasized the physical presence of students, mostly in school, and in the presence of teachers. A review by GPE partner countries in sub-Saharan Africa of the different assessment frameworks that existed before the pandemic showed many similarities in assessment practices (UNESCO, UNICEF, & World Bank, 2020). These included the use of both formative and summative assessments, examinations, and large-scale national assessments (UNESCO et al., 2020). Typically, formative and summative assessments are mostly developed and take place at the school and sub-national levels, while examinations and large-scale assessments are mainly developed at the national or regional scale. The approach used to administer these assessments primarily envisages face-to-face administration which was rendered impossible by the school closures. This was a significant barrier to conducting learning assessments during the COVID-19 school closures. For instance, **Uganda**, like many other GPE partner countries, administers summative evaluations in the form of national examinations at the end of primary (Primary Leaving Examination – PLE) and secondary (Uganda Certificate of Education – UCE) levels. In addition, it conducts formative evaluations such as the National Assessment of Progress in Education (NAPE) to monitor the achievement levels over time and evaluate the effectiveness of reforms in the education system (Allen, Elks, Outhred, & Varly, 2016). **Mozambique**, a Lusophone GPE country in SSA, also has similar assessment practices (Allen et al., 2016). In West Africa, the West African Examinations Council (WAEC) administers regional summative examinations to senior secondary school students in five Anglophone countries including **Ghana**, **Nigeria**, **Sierra Leone**, **The Gambia**, and **Liberia**.

Practices for regional assessments to monitor learning within and across countries are common in SSA. For instance, since the 1990s, 10 GPE partner countries in Eastern and Southern Africa participate in the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SAECMEQ), while another 10, mainly Francophone countries, participate in the Program for the Analysis of Education Systems (PASEC) (PASEC 2021). The SACMEQ and PASEC regional assessments aim to improve the quality of education and inform education policies at the national and regional levels (UNESCO, 2021b).

There have also been efforts to track and improve the quality of learning, particularly in early grades. For instance, the Early Grade Reading Assessment (EGRA) and the Early Grade Mathematics Assessment (EGMA) toolkits have been adopted and used by over 20 SSA countries across East, West, Central, and Southern Africa (RTI International, 2015).

Although tools for learning assessment were available, opportunities to use them during the school closure period were limited because their framework calls for face-to-face administration. The pandemic disrupted learning assessments significantly, but there were still limited attempts to conduct some forms of formative evaluation during school closures and commendable efforts to administer face-to-face assessments once schools reopened. In the next two sections, we synthesize the responses on learning assessments and the conduct of examinations during and after school closures.

3 Learning assessment during the COVID-19 pandemic

In the sub-Saharan GPE partner countries, assessment practices during school closures were intrinsically linked to distance learning solutions as a delivery method (as seen in Table 1). In this section, we present how the assessment practices were utilized as well as describe related delivery methods.

3.1. Learning assessment practices

Table 1 shows that all GPE partner countries adopted some form of learning monitoring and assessment during the period of school closures. However, the extent of implementation and the effectiveness of these practices is not immediately clear. On the one hand, teachers hardly evaluated the assessments and therefore missed the opportunity to provide feedback. On the other hand, the majority of parents did not effectively monitor learning partly due to low literacy levels, and/or competing demands for their time. The assessment practices used included:

a. Homework assignments

b. Quizzes including end of lesson evaluation quizzes

c. Call-ins by learners

d. Study packages such as print materials, and revision papers

e. Interactive Q&A through mobile phone-based short messaging services (SMS)

Homework assignments and quizzes:

Homework and quizzes[3] are not mutually exclusive as homework may take the form of a quiz. These tasks are established practices in teaching, even long before the onset of the COVID-19 pandemic. The teacher assigns specific tasks to the students on the topic covered to provide them with more learning opportunities or to assess whether they understood learning objectives. These tasks are done after school hours, usually at home. During school closures, the homework and quizzes consisted of tasks such as revision exercises assigned to students to keep them occupied as well as to monitor their learning. Homework and quizzes came in handy during the school closures because it was easier for teachers to pick the tasks from DLS lesson notes and/or subject textbooks. Further, specialized platforms like EdoBEST, Khan Academy, and Seesaw allowed students to work on an assessment (e.g., a test or a revision exercise posted online) and submit it through the platform, for evaluation by the teacher. Teachers also shared various learning materials that had assessment tasks via WhatsApp. Through these platforms, teachers and schools were also able to send out quizzes, examination papers, and assignments to students (Ngalomba, 2020). Indeed, a study that interviewed educators in **Kenya** and **Ghana** (and India) on how they assessed students when teaching virtually showed that the majority (70.8%) gave students quizzes while 15.4% (10) used interview-based questions and only (1.5%) relied on assignments (Santally et al., 2021). The platforms allowed students to download and work offline as well as upload their work and receive feedback from teachers, practices that were unavailable to those using radio or television.

Unfortunately, not all assignments/quizzes were monitored and/or evaluated by the teachers and/or parents, meaning that students missed the opportunity to obtain feedback. While we came across the use of homework, there was no evidence of how feedback was provided to the students. During school closures, various means of DLS were used to communicate homework/quizzes to students. However, not all students had access to these solutions especially the most vulnerable.

---

[3] Quizzes are short knowledge-based tests to assess the knowledge acquired after a lesson or a series of lessons.

Further, available evidence shows that majority of parents were not always involved with assessments and homework (Santally et al., 2021).

Call-ins by students and teachers:

UNICEF (2021) called for the leveraging of radio and TV for remote learning with the use of mobile phone short messaging and call-ins during lessons for added interaction and to provide teachers with the opportunity to assess whether students were learning. From our review, we found that while call-ins during active lessons were practiced, there was limited evidence on implementation. For example, in **Kenya**, an education project initiated by Isiolo Parents Association in partnership with the community radio enrolled teachers to offer radio lessons. Students were allowed to call in and interact with the teacher, a soft way of assessing whether they had understood the content of the day. However, managing the in-calls was quite challenging given limited airtime (mobile phone credit), the high number of calls which limited teachers' abilities to interact with students, and disruption by other non-targeted listeners.

There were instances when students were assessed by teachers through phone calls. However, this happened in an experimental study by researchers in **Botswana** and **Sierra Leone**. In **Sierra Leone**, the study by Crawfurd, Evans, Hares & Sandefur (2021) evaluated the effectiveness of phone assessments. This saw assessors supporting learning and administering assessment items through phone calls and in-person interactions. While tutoring through calls enhanced learning activities it did not improve test scores. However, the scores awarded through phone-based assessments were generally higher than those awarded through in-person assessments. This highlights how complex it can be to administer phone-based assessments and support learning through calls. The implementers concluded by emphasizing the need to evaluate the objectives of the assessments, reduce the number of assessment items and explore how to overcome challenges that may promote exclusion.

Study packages including revision papers:

This assessment practice involved schools and teachers designing packages for students to continue learning during the COVID-19 school closures. Study materials were either provided in hard or soft copies, with the paper-based format featuring prominently (UNICEF, 2020b; Dang, Oseni, Zezza, & Abanokova, 2021). Take-home packages included reading materials for self-learning by the students and mainly targeted those without access to digital remote learning opportunities. In some instances, these were accompanied by assignments and revision papers, particularly for the candidate grades (UNICEF, 2020b). For instance, UNICEF in **Uganda** collaborated with the Ministry of Education and Sports in distributing print materials to approximately 2.5 million learners in primary and secondary schools (UNICEF, 2020c). Students were expected to go through the various materials and attempt accompanying question items. For the candidate grades, the revision papers were usually either in print form, shared online through WhatsApp, or hosted in learning portals. It is not clear whether teachers were able to collect and review the activities undertaken by the students remotely due to limited opportunities for interaction and existing containment measures. In **Malawi**, a similar effort was complemented by home-schooling, which provided opportunities for teachers and parents to support and assess learning (Zayambika, 2020).

Interactive Q&A through short message services (SMS):

A few of the GPE countries implemented learning through SMS which allowed interaction between the pupil and the teacher. One such initiative is Shupavu291, which is implemented by Eneza Education in collaboration with telecommunication companies in **Kenya**, **Rwanda**, **Ghana**, and **Côte d'Ivoire**. This free web-based application provided students with revision opportunities through revision lessons, papers, and quizzes (Baraka, 2020), and was complemented by the use of SMS and Unstructured Supplementary Service Data (USSD) – also commonly known as a shortcode. Primary and secondary school students would subscribe to the service using a mobile phone number through which they would access the learning, revision, and self-assessment materials.

In **Kenya**, the service cost KES. 30 (~USD 0.30) per month, an amount that is generally affordable to most households with a basic mobile phone. The service had the added advantage of allowing parents and teachers to track [student performance](#) through the SMS service.

3.2. Assessment delivery methods

Delivery methods for learning assessment during the COVID-19 pandemic included: television and radio lessons in 40 countries; specialized academic web-based applications such as Khan Academy and EdoBEST, as well as digital platforms such as Zoom and Google Meet in 28 countries; short text mobile phone services in 4 countries; take-home packages in 28 countries; and social media, especially WhatsApp (UNICEF, 2020b). The various assessment delivery methods are presented in Table 1 and discussed briefly.

Table 1: Distance learning solutions and in-built learning assessment practices

Distance learning solution	Countries	Assessment practices
TV/Radio	40 (All except Burundi)	End of lesson evaluation quizzes Call-ins by learners
Academic platforms e.g., Khan Academy, Seesaw, and Edo Basic Education Sector Transformation (EdoBEST); web-based platforms such as Zoom and Google Meet	28 (Burkina Faso, Cameroon, Chad, Côte d'Ivoire, DRC, Djibouti, Ethiopia, Gambia, Ghana, Guinea, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Togo, Kenya, Lesotho, Liberia, Tanzania, Uganda, Namibia, Zambia, and Zimbabwe)	Self-learning End of lesson evaluation quizzes Homework assignments
Social media e.g., WhatsApp	Fragmented and not clear which social media were adopted/used by each country? However, WhatsApp is widely used in most SSA countries.	Homework assignments Study packages and revision materials
SMS services such as Shupavu291 by Eneza Education	4 (Kenya, Rwanda, Ghana and Côte d'Ivoire)	Interactive Q&A through SMS Quizzes
[*Take home packages*](#)	20 (Cameroon, Congo Republic, Democratic Republic of Congo, Ethiopia, Eritrea, Kenya, Ghana, Lesotho, Liberia, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Senegal, Sierra Leone, Somalia, Zambia, and Zimbabwe)	Study packages and revision materials Homework assignments

TV and radio:

All the GPE partner countries (except **Burundi**) shifted to the use of TV and radio remote learning solutions after the school closures. The shift involved teaming up with various private and public radio and TV broadcasters to reach a wide range of students. The platforms allowed for the transmission of live or pre-recorded lessons, as well as opportunities to deliver assessments to learners.

The radio and TV-based lessons were not interactive so at the end of the lesson, it was not possible to evaluate whether lesson objectives had been met – a key element of formative evaluation (UNESCO, 2020).

Take-home packages:

In 20 GPE partner countries (see Table 1), schools provided paper-based take-home packages to their students, alongside the use of TV and radio lessons. In a few cases, the take-home packages were complemented with homeschooling. For example, in **Malawi**, World Vision utilized the opportunity provided by DLS to organize the homeschooling of children. This initiative included training parents and teachers on how to support and assess learning during school closures (Zayambika, 2020). World Vision Malawi noted that this effort improved literacy skills among participants, though it is not clear how this was assessed beyond self-reporting. In addition, households in six countries (**Burkina Faso**, **Ethiopia**, **Malawi**, **Mali**, **Nigeria**, and **Uganda**) that participate in the World Bank Living Standard Measurement Study (LSMS) indicated that some students (about 30%) were being assessed through take-home assignments from teachers (Dang, Oseni, Zezza, & Abanokova, 2021).

Social media (mostly WhatsApp):

The use of social media, particularly WhatsApp, picked up quickly as a way of sharing learning resources. WhatsApp was used in almost all countries to support learning and communication between schools and teachers. This provided an opportunity to deliver assessments in the form of homework or short quizzes. However, other than **Zanzibar** which inducted teachers on how to utilize the platform (Zanzibar Examinations Council, 2020), approaches to its use in other countries were fragmented and dictated by various needs. The utility and popularity of WhatsApp arise from its ease of use and accessibility through basic smartphones. However, access to the internet and digital platforms in the GPE countries is low, especially among rural and marginalized populations. Less than a third of the population in Africa has access to broadband connectivity, pointing to limited use of internet-based assessment delivery, which could easily lead to exclusion.

Zanzibar (in **Tanzania**) directed teachers to form WhatsApp learning groups modeled along the lines of their school and classrooms. Teachers were supposed to prepare question items on the various learning areas and distribute them to students through the WhatsApp groups. The learning groups would enable interactions between the teachers and students as well as evaluation of the student responses and feedback. Those students with access to the internet would share their responses with teachers for marking and feedback (Zanzibar Examinations Council, 2020).

WhatsApp also complemented other DLS solutions. For instance, in **Nigeria**, teachers using the EdoBEST@Home remote learning application could share automated formative assessments in the form of quizzes with their students through WhatsApp and text messages (Munoz-Najar & Oviawe, 2020).

Mauritania put in place a framework to examine the level of engagement between teachers and their students through the DLS provided. The framework involved teachers giving take-home packages which included quizzes, to students especially those in rural and marginalized areas, to complement the radio and TV lessons offered (Dreseen et al., 2020). This framework was instrumental in examining the extent to which students received support at home. It also ensured engagement via TV and radio, as well as enhanced assessment of students' learning outcomes. Through a project funded by the French Development Agency, teachers were also required to undergo training to equip them with online learning-related skills which would enable them to come up with appropriate assessment strategies (MoE, 2020).

Web-based platforms in assessment:

While governments' efforts to use DLS were mainly through TV and radio, education and private sector actors in 28 countries sought to utilize web-based platforms to track progress in learning and assess learners. These platforms included virtual meeting platforms (e.g., Google Meet, and Zoom), and specialized applications (e.g., EdoBEST, Google Classrooms, Khan Academy, Seesaw among others). Countries used a mix of these web-based platforms with their use varying from one country to another depending on factors such as knowledge of the platform, internet connectivity, affordability, and preferences.

The online platforms had varying features, for example, Google Meet and Zoom lacked inbuilt learning resources, but allowed active teaching to take place. Free-to-use specialized academic platforms such as the Khan Academy and Seesaw allowed teachers to create classroom-like spaces into which they would invite their students and share learning and assessment materials. For example, the Ministry of Secondary Education in **Cameroon** developed an online revision platform for secondary school students and linked it to the Zoom platform. The platform was structured around the various subjects taught and secondary school grades (from grade 1 to grade 4), with daily instructional plans that targeted students in both public and private schools. The platform was open to all students with access to the internet. It contained revision exercises on the different subject areas and online classes scheduled in the evenings (6.00 pm to 7.30 pm local time). This allowed students to interact with their teachers as well as for teachers to assess how much the students have learned (MINISEC, 2021).

4 High-stakes examinations

The decisions and practices on high-stakes examinations following the school closures were principally along three lines[4]:

- Continued administration of examinations as scheduled (8 countries).

- Postponement and rescheduling of examinations (19 countries).

- Cancelling of high-stake examinations for the 2020 school calendar year (6 countries).

The onset of the COVID-19 pandemic and the subsequent school closures threw into disarray decisions on whether countries should hold national assessments. In most GPE partner countries, national examinations usually take place at the end of primary and secondary education levels. These end-of-school examinations are used to determine the transition to secondary and tertiary education. They are also used to determine the category of secondary school and/or the type of post-secondary training program the student will be enrolled in. Viewed from a broader perspective, the results of the national examinations can identify schools and areas with the most severe educational needs so that necessary interventions to improve the quality of learning outcomes can be instituted. Overall, the decisions on national examinations were informed by the need to keep students and educational personnel safe and healthy while also adhering to the public health guidelines which included lockdowns.

Table 2: Status of national examinations in GPE partner countries in 2020

	As scheduled (8 countries)	Rescheduled/Postponed (19 countries)	Canceled exams in 2020 (6 countries)	No information (7 countries)
1	Burundi	Benin	Kenya	Chad
2	DRC	Burkina Faso	Uganda	Comoros
3	Eritrea	Cameroon	Somalia	Guinea-Bissau
4	Lesotho	Central African Republic	Cabo Verde	Côte d'Ivoire
5	Mozambique	Ethiopia	South Sudan	Madagascar
6	Sudan	Ghana	Djibouti	Niger
7	Zambia	Guinea		Republic of Congo
8	Zimbabwe	Liberia		
9		Malawi		
10		Mali		
11		Mauritania		
12		Nigeria		
13		Rwanda		
14		Sao Tome and Principe		
15		Senegal		
16		Sierra Leone		
17		Tanzania (including Zanzibar)		
18		The Gambia		
19		Togo		

Data Source: [UNICEF, 2021](#) and CGD 2020

---

[4] Information on the 2020 national examinations from seven countries was not available by the time of completion of this report.

Administering examinations as scheduled:

Table 2 presents the various decisions made regarding the administration of the 2020 national examinations (CGD, 2020; World Bank, 2020b). Of the 40 GPE partner countries, eight countries administered their examinations as scheduled. For example, in **Zambia**, schools reopened in July 2020 for the grade 9 external and General Certificate of Education (GCE) examinations scheduled for late August/September 2020. The [Examination Council of Zambia](#) attributed the holding of the exams as scheduled to the resilience of the education system and the commitment of different education stakeholders coupled with maintenance of the learners' physical safety and minimization of the spread of COVID-19. Most of the partial reopening of schools in SSA was to facilitate the holding of national examinations as scheduled and/or to avoid long delays in taking these exams.

Postponement and rescheduling of examinations:

Nineteen countries (48%) rescheduled national examinations to later dates within the 2020 school calendar. Examination postponement ranged from four weeks to four months in countries such as **Ghana**, **The Gambia**, and **Nigeria** that participate in the West African Senior School Certificate Examination (WASSCE)[5]. The partial reopening of schools in these countries, beginning with the candidate grades, enabled them to administer the exams (ADEA, AU/CIEFFA, & APHRC, 2021a). However, not all countries that practiced partial school reopening held exams. The partial reopening allowed for social distancing as required by public health guidelines during the COVID-19 pandemic and also enabled students to recover lost time, complete the syllabus, and prepare for examinations.

Countries that postponed the national examinations did so with definite timelines or indefinitely due to uncertainties around the length of the pandemic and/or to allow adequate consultations among education stakeholders. For instance, **Ethiopia**, initially extended the national examinations timelines indefinitely, with no specified guidelines and strategies on how students were supposed to prepare for the exams (Mengistie, 2020). Later, however, the National Educational Assessment and Examinations Agency (NEAEA) scheduled and administered the grade 10 (Ethiopian General Secondary Education Certificate Examination) and 12 (Ethiopian Higher Education Entrance Certificate Examination) examinations in 2020. Moreover, the Ethiopian government offered an automatic promotion to the subsequent grade for all students in 2020 except for those students in grades 8 and 12 (Ministry of Education, 2020).

The five West African GPE countries (**The Gambia**, **Ghana**, **Liberia**, **Nigeria**, and **Sierra Leone**) that sit for the West African Senior School Certificate Examination (WASSCE) were among the very first countries to suspend examinations following school closures in March 2020. WASSCE is administered to candidates in the third year of senior secondary school and is used for certification and as a screening tool for admission into tertiary institutions. The 2020 examinations initially scheduled for May 2020, were postponed to August 2020. Following the revision of the school calendars, the 2021 WASSCE was scheduled to begin in August 2021.

Canceling of high-stakes examinations for the 2020 school calendar year:

Six GPE partner countries including **Cabo Verde**, **Djibouti**, **Kenya**, **Somalia**, **South Sudan**, and **Uganda** canceled the 2020 national examinations due to prolonged school closures. In three of these countries (**Kenya**, **Somalia**, and **Uganda**), the 2020 national examinations took place in 2021. In **Cabo Verde**, end-of-year assessments (not high-stakes examinations) were canceled for all grades except the year 12 exam (Baccalaureate equivalent examination) which was postponed (GPE, 2020).

---

[5] West African Senior School Certificate Examination (WASSCE) is a standardized examination for the Anglophone West Africa.

In **Djibouti**, although learning continued during school closures through the Ministry of education and professional training (MENFOP) e-learning platform, the 2020 high-stakes examinations were postponed until the beginning of 2021 as a way of ensuring a reduction in the risk of COVID-19 infections (World Bank, 2020a). This was to allow for the building and strengthening of the country's capacity to respond to the needs of students during the pandemic period. It also called for the initiation of measures such as syllabus coverage and the development of safe return-to-school protocols which would help ensure the high-stakes examinations would be held once the schools reopened.

Mode of administration of examinations/assessments:

In countries that conducted the national examinations and assessments, the administration was in-person, with no adoption of education technology (EdTech). Other than **Kenya**, no other GPE partner country in SSA utilized technology to deliver (not conduct) their national examinations or assessments. The Kenyan case (described in detail in the section on learning loss), involved uploading assessment papers for grade 4 and class 8 in the [Kenya National Examination Council online portal](). Schools downloaded, printed, and conducted in-person assessments during the partial school reopening for the two grades.

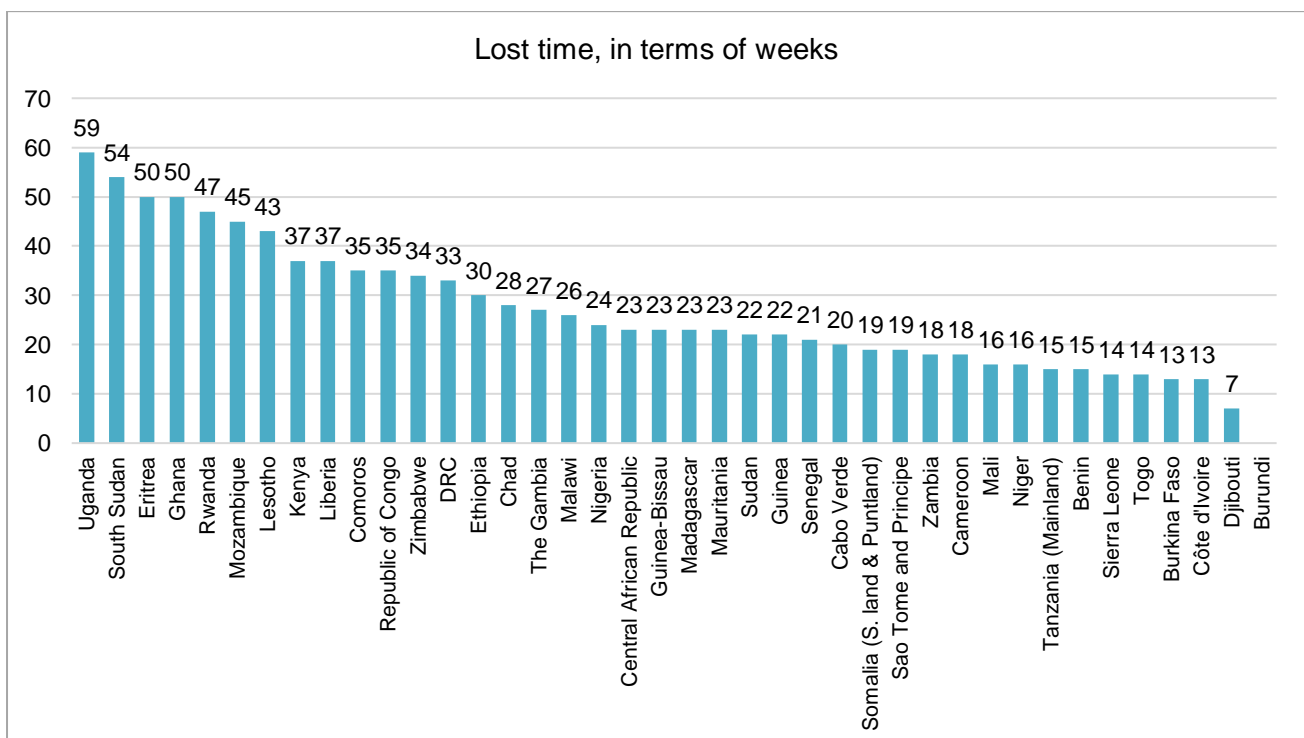# 5 Assessing learning loss after school reopening

GPE partner countries instituted various measures to mitigate and assess learning loss, especially after the reopening of schools, such as:

- Enhanced content exposure through increased contact time, remedial and accelerated programs

- Planning to conduct national, sub-national, and school-level assessments upon/after the school reopening

The effectiveness of DLS as well as their ability to reach all children provided cause for concern. The GPE notes that the effects of COVID-19 deeply affected education systems in developing countries. This is partly attributable to weak systems that could not adequately respond to disruptions (Partey, 2021). Continued school closure, also referred to as the learning loss period, was expected to increase learning poverty, and widen achievement gaps, with girls, the poorest and most vulnerable children likely to be farther left behind (Conto et al., 2020).

Despite the continuation of lessons using DLS, the learning that occurred from a distance cannot be compared to that which takes place during in-person learning. This is because many of the alternative learning platforms adopted during the school closures were largely exclusionary as they were inaccessible to the majority of school children, especially those from remote, rural, and marginalized areas (UNICEF, 2020; UNESCO, 2021). Lost learning time varied by country and the duration of school closures. The lost learning time ranged from 0-59 weeks, with **Burundi** recording no lost learning time, while **Uganda** had the highest lost time (Figure 1). Lost learning time and learning loss can be said to be intrinsically linked, with more lost time likely to lead to higher learning losses. This is compounded by the limited reach of DLS, with the vulnerable, marginalized, and girls likely to have lost more learning time than their peers.
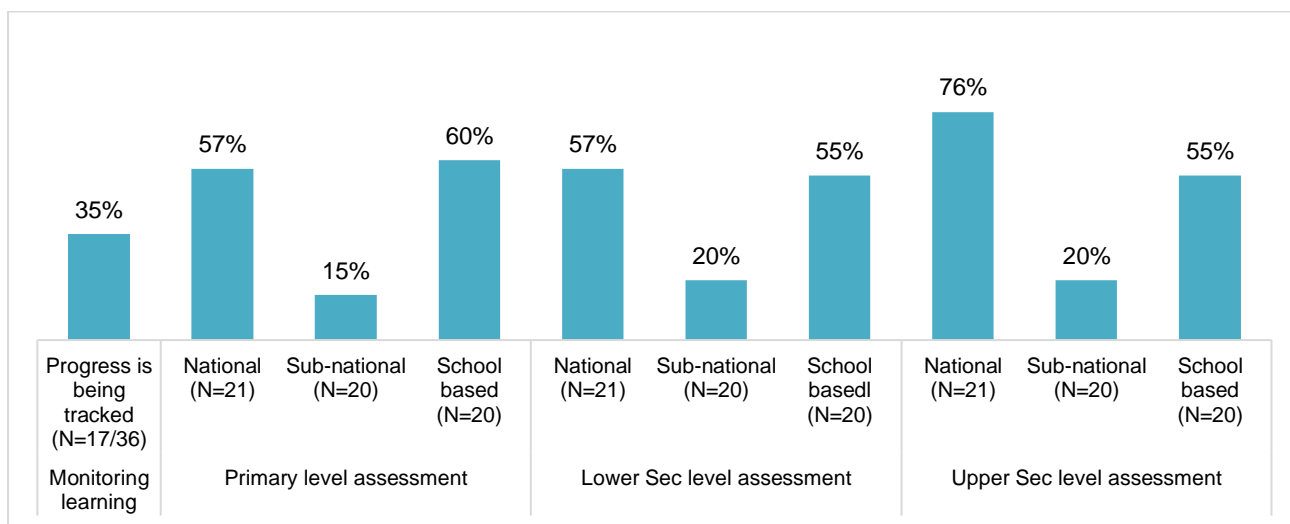
Figure 1: Learning loss time in weeks during school closures as of May 2021

Data Source: UNICEF, 2021

Different countries put in place strategies such as increased contact time, remedial programs, and accelerated programs to mitigate learning loss during school closures and after school reopening (ADEA, AU/CIEFFA, & APHRC, 2021a). The strategies were perceived to be fairly effective (UNESCO et al., 2020) and only monitored in one-third (35%) of the countries (GEM Report, 2021). This highlighted the need for assessments on how much learning students lost during the school closures, once the schools reopened (Conto & al., 2020). These assessments would act as a diagnostic tool for teachers and policymakers to design interventions to reduce such losses.

Figure 2: Proportion of countries reporting monitoring and learning assessments once schools reopened in GPE partner countries

Data Source: UNICEF, 2021

As stated earlier, different countries in SSA used various types of assessments administered at different levels (school, sub-national, and national) before the onset of the pandemic. These provided a great starting point for GPE partner countries in SSA to assess learning loss among students during the school closures. Several SSA countries anticipated the use of these existing assessment structures once schools reopened, as seen in Figure 2 and Table 3. Assessments upon reopening were mostly national or school-based with only three countries holding assessments at the sub-national level. At the primary level, assessments were mostly school-based (60%), whereas they were mostly national for lower (57%) and upper (76%) secondary school levels.

In September 2020, **Kenya** implemented a phased reopening of schools, beginning with candidates in primary grade 4 and class 8, and secondary grade 4 (year 12). The Kenya National Examinations Council (KNEC) implemented a national assessment for both primary grade 4 and class 8 students a week after the partial reopening of schools (Bazaldua, Levin, & Liberman, 2020; KNEC, 2021; Media Team, 2020). KNEC uploaded the assessments on its assessment portal (www.knec.co.ke) with restricted access. School heads were expected to download and print the assessment papers and administer them in person to students within their schools. The assessments were evaluated at the school level by teachers and uploaded to the KNEC portal. Similarly, once schools fully reopened in January 2021, KNEC with support from GPE used the same procedures to administer school-level assessments for all the other primary grades based on the content covered before the school closures (KNEC, 2021). The large-scale assessments were to help teachers understand students' learning status and to support the development of possible mitigation plans (Bazaldua et al., 2020).

Table 3: GPE partner countries with plans to determine learning loss after reopening

National Level (18 countries)		Sub-national Level (3 countries)	School Level (16 countries)	
Benin	Lesotho	Cameroon	Benin	Liberia
Burkina Faso	Mozambique	Congo	Burkina Faso	Lesotho
Côte d'Ivoire	Malawi	Liberia	Botswana	Mauritius
Cameroon	Niger		Côte d'Ivoire	Malawi
Eritrea	Sierra Leone		Cameroon	Niger
Gambia	Sao Tome and Principe		Eritrea	Nigeria
Ghana	Togo		Ghana	Sierra Leone
Kenya	Uganda		Kenya	Somalia
Liberia	Zimbabwe			

Data Source: UNICEF, 2021

Efforts to assess learning loss were also complemented with Citizen Led Assessment (CLA). For instance, in **Uganda**, before the onset of the pandemic, CLA had already been adopted to evaluate learning at the household level for children who were not enrolled in formal schooling or had low attendance rates. Similarly, in **The Gambia**, the government, through the Optimizing Assessment for All (OAA) project, developed tools for assessment in various subjects before the onset of the pandemic. A National Technical Team (NTT) was set up to help in the successful implementation of the project (Kim & Care, 2020). **Zambia** and **DRC** were also participating in this initiative in collaboration with the Brookings Institution. Despite countries declaring their intentions to conduct assessments once schools reopened, there is little clarity on how many countries did so and the results of the efforts.

Learning assessments for vulnerable groups:

The review on learning assessment did not identify specific data or actions related to vulnerable groups including girls, children with special needs, and those in marginalized settings. Policies and practices related to school reopening should have specific targets and efforts to ensure vulnerable children access DLS and return to school (ADEA, AU/CIEFFA, & APHRC, 2021a) as well ensure their wellbeing. These can be said to be complementary efforts to increase access and participation in high stake examinations that are held in person.

It is however anticipated that girls and young women in education remain disadvantaged due to several factors such as the digital divide, and household responsibilities during school closures. The disadvantages are even more pronounced for girls without a stable residence or those who are pregnant. These hindrances are likely to increase lost learning time among girls and other vulnerable populations, thus increasing learning poverty. In this synthesis, we only found limited and inconclusive evidence from the MILO study by UNESCO on learning poverty based on gender and vulnerability (parental education and disability). However, emerging evidence from six countries showed that vulnerable children (those from the poorest households and with low education attainment) were significantly less likely to access or participate in learning activities in comparison to those from well-off families or with at least secondary education (Dang, Oseni, Zezza & Abanokova, 2021). This implies that vulnerable children were unlikely to participate in learning assessments including national examinations that are usually used to determine who will progress to the next level of schooling. The impact of COVID-19 in increasing learning poverty among girls, children with special needs, and women are expected to be large and will need concerted monitoring and assessment efforts to understand its magnitude and design effective interventions such as accelerated learning to bridge the potential gaps.

6 | Challenges in responses to learning assessments

There are several challenges to monitoring learning and learning assessment among GPE partner countries in sub-Saharan Africa as outlined below:

- ***Lack of clear policies and guidelines on assessing learning in GPE partner countries as well as lack of national assessment toolkits that can be used to benchmark regionally and internationally.*** The GPE financing at the onset of the COVID-19 disruptions was to allow countries to develop strategies and guidelines for continued learning including plans for learning assessment (ADEA, AU/CIEFFA, & APHRC, 2021a). However, practices on assessment in the region are not fully developed, disseminated, and understood by the various stakeholders.

- ***Education systems that are not prepared to respond to emerging challenges such as the COVID-19 disruptions.*** While the speed at which education systems responded to the COVID-19 disruptions is commendable, monitoring of learning remained a key challenge. The majority of the countries in the region had not experienced a pandemic that caused a social crisis and subsequent school closures, and so had limited experience in developing and managing resilient systems (such as DLS) to cope with the pandemic. Thus, DLS in these countries lacked guidelines and ways for teachers to assess and provide feedback to students as well as to offer parental support (Areba & Ngwacho, 2020). Existing social disparities and inequalities worsened the situation, with the majority of students coming from poor and marginalized populations having limited access to digital technology and key infrastructure elements like electricity (Adarkwah, 2021; Areba & Ngwacho, 2020; Kinoti, 2020).

- ***Persistent inequalities in access to education, basic information, and communication technology to assess learning during emergencies.*** The penetration of digital delivery platforms was not universal in most low-income countries. Projections indicated that 47% of households in these countries had some form of internet access, mainly through mobile phones, while 80% had access to radio and 60% to TV. The access and utility of these platforms to deliver learning did not necessarily guarantee that learning occurred during the school closure period (UNICEF, 2020b) and could have further excluded the vulnerable from access to learning (UNICEF, 2021). Moreover, the principal platforms, i.e., TV and radio, were unidirectional and did not allow interactions between teachers and students to evaluate/assess homework or learning. There are also questions of integrity and ethics in the administration of online assessments that need to be critically examined and addressed.

- ***Limited capacities of teachers and students to manage distance learning and adopt technology in learning and assessment.*** While countries mounted various capacity strengthening initiatives to adapt DLS, one aspect that was conspicuously missing was the assessment of learners in the context of DLS. Consequently, GPE countries were not able to effectively monitor learning loss (or gain) during school closures. However, there were exceptions, especially among private schools that were able to assess learners online using internet-based platforms.

- ***Limited baseline information from which to gauge learning loss.*** Most assessments are school-based, not standardized, and do not provide a basis to gauge how much learning is taking place nationally. National high-stake examinations come too late to inform constructive discourse, especially during large-scale disruptions such as the COVID-19 pandemic. Twenty percent of SSA countries conduct national assessments and several countries participate in international assessment frameworks such as the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SEACMEQ) and the Programme for International Student Assessment for Development (PISA-D) (**Zambia** and **Senegal**) (UNESCO, 2016).

While these can provide some baseline information, UNESCO (2016) notes that they target specific grades and that participation is too low, especially in PISA-D, to provide a robust base for monitoring learning over time.

- ***Inadequate provisions for assessment of vulnerable groups such as girls and boys in difficult circumstances and/or children with special learning needs.*** Generally, there was little learning assessment going on during school closures, though this changed once schools reopened. However, practices that pay special attention to children in difficult circumstances, such as displaced children, are few. This could be attributed to the limited capacity to adapt to the circumstances and the reality that in many countries, policy and practice initiatives traditionally focus on the majority first, before focusing on minorities such as the displaced children. There were inequalities in the use of education technology to deliver and assess learning. Reliance on DLS platforms excluded school children not covered by the delivery medium or those who could not afford the cost of internet access, despite the subsidized rates from telecommunication companies. Moreover, radio and TV lessons provided take-home quizzes (as a way of assessment), which were difficult to monitor in the absence of physical contact and parental involvement.

7 **Emerging evidence on assessment**

Research on assessment in SSA during the COVID-19 pandemic has mainly focused on two inter-related areas: learning loss and monitoring learning progress. Learning loss is a major concern as GPE partner countries reopen their schools, whether partially or fully. Emerging research evidence related to assessment during the COVID-19 pandemic has therefore tended to focus on learning loss and not diagnostic assessments, as was the case in the past. The emerging evidence will help guide learning recovery efforts that education systems have implemented or are putting in place during the COVID-19 pandemic. This may also inform better approaches to educational system learning recovery in the future. This section presents a short synthesis of evidence obtained to date on assessment with greater attention given to learning loss.

Table 4: Emerging evidence on learning assessment

Evidence areas of focus	Details
Learning loss	Emerging evidence from small-scale studies and projections show potential learning loss.
	Examine the magnitude of learning loss by different levels of vulnerability (gender, disability, poverty, education level, residence) and longevity of school closures.
Technology in monitoring learning and learning assessment	How to integrate technology in learning assessment and examinations.
	Learning from institutions of higher education in Africa and beyond.
	Documenting best EdTEch practices that support learning assessment.

Learning loss:

A learning crisis existed before the onset of the COVID-19 pandemic, and it is hypothesized to have deteriorated during the school closure period, with huge learning losses expected in many SSA countries. Before the pandemic, one in every two children aged 10 years was unable to read a simple text (World Bank, 2019). Emerging evidence appears mixed on the effects of prolonged school closures on learning. Some studies show possible learning loss while others show no effects. For instance, evidence from small studies and projections shows a 10% increase in learning poverty because of prolonged school closures, and an estimated 100 million children are likely to fall below the minimum proficiency level in reading (UNESCO, 2021a). Globally, it is estimated that proficiency in reading is likely to decrease from 59% in 2019 to 50% among grade 3 students and that it may take another decade to reverse the loss (Montoya, 2020). Isolated evidence from **Kenya** indicates a decreased proportion of students attaining at least 50% in Mathematics and English (Admin, 2021), while in **Zambia**, 16% and 10% of children in grades 3 and 5 had dropped one level in literacy and numeracy skills respectively (UN OCHA, 2020). The African Development Bank in its 2021 Economic Outlook reported that the impact of learning loss arising from COVID-19 related school closures would result in losses to lifetime earnings (AFDB, 2021) that range from 43% to 61% of current GDP in low-income countries. An estimated 15% to 22% of lifetime earnings loss is expected for middle-income countries and 6% to 8% in high-income countries.

Recently, there have, however, been some interesting findings coming from **Uganda** that show an exception to these findings. A 2021 learning assessment survey by Uwezo **Uganda** shows that after almost 17 school months of closure, the proportion of children between grades P3 and P7 who could read and comprehend a P2 level English story increased from 32.5% in 2018 to 39.5% in 2021 (Sandefur, 2022).

Moreover, the Monitoring Impacts on Learning Outcomes (MILO) study conducted by UNESCO in six SSA countries showed no differences in the proportion of students who met the minimum proficiency levels (MPL) for literacy and numeracy in five of the six countries between 2019 and 2021 (UNESCO, 2022). Indeed, in **Burkina Faso**, there was a significant increase in the proportion of students at the end of primary school who met the MPLs in mathematics, rising from 18% in 2019 (before Covid-19) to 24% in 2021 (during COVID-19). In **Kenya**, however, the proportion of boys meeting MPL in mathematics decreased significantly by 9% to 74% in 2021, indicating a possible learning loss. In addition, the study reported a positive impact of parental education on meeting MPLs. A significantly higher proportion of students whose parents had attained at least secondary education attained the target MPL in both mathematics and reading in comparison to their peers.

Use of technology in learning assessment:

Countries adopted and adapted DLS which required the use of information and communication technology (ICT) for learning, yet the effectiveness of DLS was little understood. While it is still early, emerging evidence shows mixed results regarding the impact of EdTech on learning outcomes. For instance, a randomized control study by Crawfurd, Evans, Hares & Sandefur (2021) examined the feasibility of live tutoring and assessment calls in **Sierra Leone**. The effort complemented the existing digital learning taking place during the COVID-19 school closures. They found a small positive effect on engagement with education, but no effect on test scores in both mathematics and language assessment. Despite the intervention's limited impact, the initiative provides useful information on the applicability and feasibility of the technology in learning and assessment. In **Sierra Leone**, the use of technology, particularly phones in DLS did not increase learning. Students who were exposed to mobile phone interactive activities and support as well as reminders to access digital learning did not perform significantly better than those not exposed to the initiative (Crawfurd, Evans, Gutierrez, et al, 2021). Another study by UNICEF (2021) documented the lessons from remote learning during the COVID-19 pandemic in West and Central Africa. The study found that uptake of remote learning varied from one country to another, for instance, 90% of the households in **Sierra Leone** reported access to learning compared to 65% in **Ghana**.

8 | Conclusion and recommendations

In the last two decades, GPE partner countries have significantly increased access to education. Unfortunately, the COVID-19 pandemic has threatened to reverse the gains realized so far, with evidence suggesting that learning poverty in foundational skills within the region could increase by 10 percentage points. The pandemic directed education systems and millions of children towards new ways of learning, besides the traditional in-person approaches. It also affected student assessments and high-stakes examinations. In this paper, we reviewed learning assessment and examination practices in 40 GPE countries in SSA during the COVID-19 crisis.

Countries adopted fragmented approaches to learning assessments including homework, quizzes, and take-home learning packages that were mediated by the DLS. GPE countries were aware of potential learning loss and intended to assess this once schools reopened. Evidence is currently emerging on how much learning students lost; however, the lack of baseline information hinders the ability to understand the magnitude of loss. Projections by various organizations including the World Bank and the non-profit, RTI, have highlighted potential learning loss, in terms of increased learning poverty and reduction in years of educational attainment. However, the MILO study by UNESCO shows little impact arising from the COVID-19 pandemic on the proportion of students in **Kenya**, **Burkina Faso**, **Zambia**, **Senegal**, and **Côte d'Ivoire** who met MPL in both reading and mathematics.

High-stake examinations scheduled for 2020 were either canceled or postponed/rescheduled. At the time of this review, all countries had conducted their 2020 high-stakes examinations, which were held in person, indicating the unfeasibility of alternative options such as the use of EdTech. In most countries, school reopening measures prioritized examination candidate classes and made provisions for social distancing and syllabus coverage before the examinations. The review did not identify any single instance (case study) of the use of technology to administer high-stakes examinations. This implies that although there were remarkable efforts to ensure learning continuation through DLS, commensurate approaches to utilizing DLS in formative and summative assessments were lacking. This was largely due to the logistics involved, inadequate infrastructure, unequal access to DLS, and the risk of excluding vulnerable students in the assessments and examinations.

In this report, we provide different strategies adopted by countries to assess learning. However, the impacts of these strategies are not yet fully understood, nor have they been studied well enough to make specific recommendations on which strategies worked well, especially in terms of assessment. Despite the uncertainty on how long the pandemic will persist, the following key policy recommendations emerge from this synthesis:

1. ***Development of guidelines on how to monitor student learning during periods of prolonged school closure.*** None of the GPE countries reviewed had enacted guidelines on how to monitor and assess the learning of students during the school closures. However, key decisions were made regarding the administration of the national examinations, which were mostly postponed in the majority of the countries. Despite some forms of assessment taking place, they were not well-coordinated, lacked feedback mechanisms, faced several challenges, and were unable to reach all students. The lack of clear frameworks and guidelines could have contributed to this. It is therefore imperative to learn from the crisis created by the pandemic and put in place guidelines not only for continued learning but also for monitoring and assessing learning.

2. To improve the effectiveness of assessments during crises, GPE partner countries should ***build the capacity of teachers, schools, and quality assurance personnel*** on ***(i) mainstreaming digital technology in the assessment systems***; ***(ii) enhancing the resilience of the education system to adequately respond to assessment needs***; ***and (iii) increasing the utilization and utility of digital technology in monitoring learning.***

While the GPE grants focused on shifting countries and teachers towards adopting distance learning, educators have still not been adequately prepared on related pedagogical and assessment methods. One lesson from COVID-19 on education was an acknowledgment of the real value of teachers. This lesson should motivate strategies for building proficiency levels in EdTech not only for the teaching workforce but also for the management and quality assurance personnel. Enhancement of proficiency and pedagogies should prioritize all aspects of distance and online approaches for education and assessment. This is in recognition of the reality that teaching via EdTech platforms is different and more challenging than traditional classroom teaching as the teacher becomes more of a facilitator and allows for a measure of self-paced learning by the students based on their abilities. This could also be done through collaboration on innovations with digital service providers, digital solution innovators, teachers, and researchers to enable the development of relevant and adaptable solutions. It is however important to note that the use of digital technology in education comes with its drawbacks such as the requirement for electricity access and internet connectivity, the access and use of specialized applications/tools, and integrity issues. Support among GPE countries concerning these challenges has been disjointed. Some countries have benefited from free internet connectivity for learners, while others have provided free access and use of necessary tools (especially in higher education with the distribution of laptops). Most countries in SSA have been using radio and/or television for distance learning, even though these media present challenges on how to conduct learning assessments.

3. ***Capacity development to enable parents to support learners caught up in similar circumstances to the COVID-19 pandemic***: The importance of parental involvement and support on learning and academic achievement has been widely documented. While parents spend a considerable amount of time with their children, the pandemic shifted the teaching role to parents, making them central to the continued learning of children during the lockdowns. It is important therefore to explore opportunities for enhancing the capacity of parents as well as creating awareness and connections with schools so that parents can better support their children's learning. Attention should be paid to parents with low education levels and those living in extreme poverty as these circumstances can challenge their participation in children's learning and support.

4. ***Blending and complementing assessment processes with EdTech***: Most of the GPE partner countries in SSA were able to shift to distance learning with media and the use of information and communication technologies (ICTs). While the shift to distance learning was widely practiced, it provided few options for assessing students. Complementing the use of TV and radio with ICT as well as strengthening ICT as a means for curriculum delivery and assessment at all levels of education is crucial. Moreover, there is a need to use self-evaluation formative assessments which not only conduct automatic scoring/grading, but which also provide students with solutions after completing the assessment. The assessment can be in real-time, with all students exposed to the assessment at the same time for a certain period (synchronous) or with students taking the assessments at their convenience (asynchronous). Formative assessments can be institutionalized at school or higher education management levels to track learning by schools and countries. It will however be critical to evaluate the effectiveness of these approaches in addressing assessment gaps witnessed during the school closures.

5. ***Monitoring learning loss:*** In this review, we found limited evidence on how countries monitored learning loss. We also found inconclusive evidence on the impact of COVID-19 on learning outcomes. Continuous assessment, evaluation, analysis, and comparison of emerging data on learning outcomes during school closures and after reopening with the pre-pandemic outcomes can shed light on whether COVID-19 increased learning poverty.

References

Adarkwah, M. A. (2021). *An Outbreak of Online Learning in the COVID-19 Outbreak in Sub-Saharan Africa: Prospects and Challenges*. Global Journal of Computer Science and Technology.

ADEA (2020). *Delivering education at home in African member states amid the Covid-19 pandemic: Country status report.* https://www.adeanet.org/sites/default/files/report_education_at_home_covid-19.pdf

ADEA, AU/CIEFFA, & APHRC (*forthcoming*). *Teacher Training and Support in Africa during the COVID-19 Pandemic.* Abidjan, Ouagadougou, Nairobi: ADEA, AU/CIEFFA, APHRC. https://www.adeanet.org/sites/default/files/publications/teacher_training_and_support_kix_observatory.pdf

ADEA, AU/CIEFFA, & APHRC. (2021a). *School reopening in Africa during the COVID-19 pandemic.* Retrieved from Abidjan, Ouagadougou, Nairobi: ADEA, AU/CIEFFA, APHRC. https://www.adeanet.org/sites/default/files/school_reopening_kix_observatory.pdf

ADEA, AU/CIEFFA, & APHRC. (2021b). *Financing Education in Africa during the COVID-19 Pandemic.* Abidjan, Ouagadougou, Nairobi: ADEA, AU/CIEFFA, APHRC. https://www.adeanet.org/sites/default/files/financing_education_kix_observatory.pdf

AFDB. (2021). *African Economic Outlook Report: Africa's Growth Performance and Outlook amid the COVID–19 Pandemic*. African Development Bank Group (AfDB). https://www.afdb.org/sites/default/files/2021/03/09/aeo_2021_-_chap1_-_en.pdf

Admin. (2021). *KCSE/KCPE mass failure looms as KNEC releases assessment report*. The Blackboard. Retrieved from https://theblackboard.co.ke/2021/02/03/kcpe-kcse-mass-failure-looms-as-knec-releases-assessment-report/

Allen, R., Elks, P., Outhred, R., & Varly, P. (2016). *Uganda's assessment system: A roadmap for enhancing assessment in education*. https://www.heart-resources.org/wp-content/uploads/2016/10/Final-report-Enhancing-Ugandas-Assessment-System-September-2016.pdf

Angrist, N., Bergman, P., Evans, D. K., Hares, S., Jukes, M. C. H., & Letsomo, T. (2020). *Practical lessons for phone-based assessments of learning*. BMJ Global Health. http://dx.doi.org/10.1136/bmjgh-2020-003030

Areba, G., & Ngwacho. (2020). *COVID-19 Pandemic Impact on Kenyan Education Sector: Learner Challenges and Mitigations*. 128-139. https://www.researchgate.net/publication/342514992_COVID-19_Pandemic_Impact_on_Kenyan_Education_Sector_Learner_Challenges_and_Mitigations

Azevedo, J. P. (2020). *How could COVID-19 hinder progress with Learning Poverty? Some initial simulations*. Retrieved from https://blogs.worldbank.org/education/how-could-covid-19-hinder-progress-learning-poverty-some-initial-simulations

Azevedo, J. P., Hasan, A., Goldemberg, D., Iqbal, S. A., & Geven, K. (2020). *Simulating the potential impacts of COVID-19 school closures on schooling and learning outcomes: A set of global estimates*. Retrieved from https://documents1.worldbank.org/curated/en/329961592483383689/pdf/Simulating-the-Potential-Impacts-of-COVID-19-School-Closures-on-Schooling-and-Learning-Outcomes-A-Set-of-Global-Estimates.pdf

Azubuike, B., & Aina, B. (2020). *How parents are supporting their children's learning during the covid-19 pandemic in Nigeria*. Retrieved from https://www.ukfiet.org/2020/how-parents-are-supporting-their-childrens-learning-during-the-covid-19-pandemic-in-nigeria/

Bangoura, M. (2020). *Launch of the educational platform mboore.com by MENA in partnership with MTN Guinea*. Guinéenews. Retrieved from https://guineenews.org/lancement-de-la-plateforme-educative-mboore-com-par-le-mena-en-partenariat-avec-mtn-guinee/

Baraka, P. (2020). *Creating Impact During COVID-19 Pandemic.* Retrieved from https://enezaeducation.com/creating-impact-during-covid-19-pandemic/

Bazaldua, D. L., Levin, V., & Liberman, J. (2020). *Guidance note on using learning assessment in the process of school reopening* Retrieved from https://pubdocs.worldbank.org/en/398671606227182903/Assessment-and-School-Reopening-Note.pdf

Brossard, M., Cardoso, M., Kamei, A., Mishra, S., Mizunoya, S., & Reuge, N. (2020). *Parental engagement in children's learning: Insights for remote learning response during COVID-19* Retrieved from Innocenti, Florence: https://www.unicef-irc.org/publications/1091-parental-engagement-in-childrens-learning.html

CGD. (2020). *Covid education policy tracking*. From Center for Global Development https://www.cgdev.org/sites/default/files/CGD_COVID_education_policy_tracking-9-17-20.xlsx

Chebib, K., Sharma, A., & Ajadi, S. (2020). *Education For All in the Time of COVID-19: How EdTech can be Part of the Solution*. Retrieved from https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/09/EdTech-Final-WEB.pdf

Conto, C. A., Akseer, S., Dreesen, T., Kamei, A., Mizunoya, S., & Rigole, A. (2020). *COVID-19: Effects of School Closures on Foundational Skills and Promising Practices for Monitoring and Mitigating Learning Loss.* Retrieved from Florence: https://www.unicef-irc.org/publications/pdf/COVID-19_Effects_of_School_Closures_on_Foundational_Skills_and_Promising_Practices_for_Monitoring_and_Mitigating_Learning_Loss.pdf

Crawfurd, L., Evans, D., Gutierrez, M., Hares, S., Sam-Kpakra, R., Sandefur, J., & Shojo, M. (2021). *Tech Plus Teachers: One-on-one Phone Tutorials Didn't Help Kids Learn During School Closures in Sierra Leone*. https://www.cgdev.org/blog/tech-plus-teachers-one-on-one-phone-tutorials-didnt-help-kids-learn-better-during-school-closures

Crawfurd, L., Evans, D., Hares, S., & Sandefur, J. (2021). *Teaching and Testing by Phone in a Pandemic*. https://www.cgdev.org/sites/default/files/teaching-and-testing-phone-pandemic.pdf

Dang, H.-A., Oseni, G., Zezza, A., & Abanokova, K. (2021). *Impact of COVID-19 on Learning: Evidence from Six Sub-Saharan African Countries*. Retrieved from Washington, DC: https://openknowledge.worldbank.org/handle/10986/35676

Dreesen, T., S. Akseer, M. Brossard, P. Dewani, J.-P. Giraldo, A. Kamei, S. Mizunoya and J. S. Ortiz (2020). *Promising practices for equitable remote learning Emerging lessons from COVID-19 education responses in 127 countries*. Innocenti Research Brief, UNICEF. https://www.unicef-irc.org/publications/1090-promising-practices-for-equitable-remote-learning-emerging-lessons-from-covid.html

eLearning Africa. (2020). *A Survey of the Experience and Opinions of Educators and Technology Specialists*. Retrieved from https://www.elearning-africa.com/conference2022/ressources/pdfs/surveys/The_effect_of_Covid-19_on_Education_in_Africa.pdf

EduAnalytics (2019). *Learning Poverty Briefs*. Sub-Saharan Africa. https://pubdocs.worldbank.org/en/865711571223530746/SSA-LPBRIEF.pdf

EdTech Hub & eLearning Africa, 2020. *The Effect of Covid-19 on Education in Africa and its Implications for the Use of Technology: A Survey of the Experience and Opinions of Educators and Technology Specialists* https://www.guninetwork.org/files/the_effect_of_covid-19_on_education_in_africa.pdf

Education Endowment Foundation. (2020). *Covid-19 support guide for schools*. Retrieved from Millbank, London: https://educationendowmentfoundation.org.uk/tools/assessing-and-monitoring-pupil-progress/

Elusoji, S. (2020). *Deep Impact: How COVID-19 Exposed the Education Sector's Digital Flaw*. Channels Incorporated Limited: Channels Incorporated Limited. Available: https://www.channelstv.com/2021/06/26/how-education-was-suspended-in-nigeria-during-a-covid-19-lockdown/

Fontenelle-Tereshchuk, D. (2021). *'Homeschooling' and the COVID-19 Crisis: The Insights of Parents on Curriculum and Remote Learning*. Interchange. https://dx.doi.org/10.1007/s10780-021-09420-w

GEM Report. (2021). *One-third of countries are not taking action to help children catch up post-COVID-19*. Retrieved from https://gemreportunesco.wordpress.com/2021/07/13/one-third-of-countries-are-not-taking-action-to-help-children-catch-up-post-covid-19/

GPE (2020). Accelerated financing of the response to COVID19, in COVID-19 Fast-Track Funding Request. (Republic of Cabo Verde: GPE). https://www.globalpartnership.org/fr/content/requete-de-financement-accelere-covid-19-et-document-de-programme-cabo-verde-mai-2020

Kaffenberger, M. (2021). *Modeling the long-run learning impact of the Covid-19 learning shock: Actions to (more than) mitigate loss*. International Journal of Educational Development, 81, 102326. https://doi.org/10.1016/j.ijedudev.2020.102326

Liberman, J., Levin, V., Luna-Bazaldua, D. & Harnisch, M. (2020). *High-stakes school exams during COVID-19 (Coronavirus): What is the best approach?* Education for Global Development. Retrieved from https://blogs.worldbank.org/education/high-stakes-school-exams-during-covid-19-coronavirus-what-best-approach

Kim, H., & Care, E. (2020). *Optimizing Assessment for All. Framework for understanding project goals and scope*. Retrieved from Washington, USA: https://www.brookings.edu/wp-content/uploads/2020/05/OAA-Part3.pdf

Kim, J., Rose, P., Tiruneh, D. T., Sabates, R., & Woldehanna, T. (2021). *Learning Inequalities Widen Following COVID-19 School Closures in Ethiopia*. https://riseprogramme.org/blog/learning-inequalities-widen-COVID-19-Ethiopia

Kinoti, T. (2020). *COVID-19 adaptations: challenges in assessing learning in marginalized communities*. Retrieved from https://www.ukfiet.org/2020/covid-19-adaptations-challenges-in-assessing-learning-in-marginalised-communities/

KNEC. (2021). KNEC *Mitigates Against Lost Learning*. Retrieved from https://www.knec.ac.ke/2021/01/25/knec-mitigates-against-lost-learning/

Kwauk, C., Schmidt, D., & Ganju, E. (2021). *What do we know about the effects of COVID-19 on girls' return to school?* https://www.brookings.edu/blog/education-plus-development/2021/09/22/what-do-we-know-about-the-effects-of-covid-19-on-girls-return-to-school/

Liberman, J., Levin, V., & Luna-Bazaldua, D. (2020). *Are students still learning during COVID-19? Formative assessment can provide the answer*. Retrieved from https://blogs.worldbank.org/education/are-students-still-learning-during-covid-19-formative-assessment-can-provide-answer

Mabeya, M. T. (2020). *Distance Learning During COVID-19 Crisis: Primary and Secondary School Parents Experiences in Kenya*. East African Journal of Education Studies, 2(1), 173-186. https://doi.org/10.37284/eajes.2.1.249

Marshall, D. B., Jr. Foundation, IPA, & Pratham. (2020). *Focusing on the Foundations: Education in the Time of COVID-19*. A joint statement by the Douglas B. Marshall, Jr. Foundation, Innovations for Poverty Action, J-PAL, Pratham, Teaching at Right Level Africa, and Young 1ove. Retrieved from https://www.poverty-action.org/blog/focusing-foundations-education-time-covid-19

Media Team. (2020). *KNEC circular to all school heads on the conduct of learning assessments under the Kenya GPE Covid19 learning project. Education News Hub*. Retrieved from https://educationnewshub.co.ke/knec-circular-to-all-school-heads-on-the-conduct-of-learning-assessments-under-the-kenya-gpe-covid19-learning-project/

MENETFP. (2020). *Côte d'Ivoire: Response plan of the education-raining sector against covid-19*. Retrieved from http://www.education.gouv.ci/wp-content/uploads/2020/05/COVID-19_R%C3%A9ponse_Education_VF-du-05-mai-20201.pdf

Mengistie, T. A. (2020). *Impacts of COVID-19 on the Ethiopian Education System*. Science Insights Education Frontiers, 6(1), 569-578. http://dx.doi.org/10.2139/ssrn.3626327

MINISEC. (2021). *General education distance learning*. Retrieved from https://minesec-distancelearning.cm/1

MoE. (2020). *Learning Continuity and Resilience Building of Basic Education Project*. Retrieved from Mauritania: https://www.globalpartnership.org/sites/default/files/document/file/2020-10-application-program-document-covid-19-accelerated-funding-mauritania.pdf

Montoya, S. (2020). *Assessments of Learning Loss and Remote Education Inform Data-Driven Response to COVID-19*. Retrieved from http://uis.unesco.org/fr/node/3724445

Ministry of Education. (2020). *Ethiopia Education Statistics Annual Abstract September 2019-March 2020*. Retrieved from http://www.moe.gov.et/Publication

MoBSE. (2020). *The Republic of The Gambia Education Sector Coronavirus (COVID-19) Response Plan*. Retrieved from http://planipolis.iiep.unesco.org/sites/planipolis/files/ressources/gambia_education_sector_covid-19_strategy.pdf

Munoz-Najar, A., & Oviawe, J. O. (2020). *Education continuity during the Coronavirus crisis. Nigeria: Edo-BEST@Home*. Retrieved from Paris: http://documents1.worldbank.org/curated/en/371511605243057061/pdf/Nigeria-Edo-BEST-at-the-rate-Home.pdf

Ngalomba, S. (2020). *Using WhatsApp to enhance online learning*. University World News, Africa Edition. Retrieved from https://www.universityworldnews.com/post.php?story=20200421102812987

Ngware, M. W., Hungi, N., & Mutisya, M. (2019). *Assessing learning: How can classroom-based teachers assess students' competencies in numeracy?* Assessment in Education: Principles, Policy & Practice, 26(2), 222-244. http://dx.doi.org/10.1080/0969594X.2018.1503156

Partey, P. A. (2021). *COVID-19 and education in sub-Saharan Africa: 5 actions for the way forward*. Retrieved from https://www.globalpartnership.org/blog/covid-19-and-education-sub-saharan-africa-5-actions-way-forward

PASEC (2021). *Program for the Analysis of Education Systems*. Retrieved from http://www.pasec.confemen.org/a-propos-de-nous/le-pasec/

Rossiter, J., & Abreh, M. K. (2020). *COVID-19 Has Forced Exams to be Suspended Across West Africa. Should They Be Overhauled Before They Restart?* Retrieved from https://www.cgdev.org/blog/covid-19-has-forced-exams-be-suspended-across-west-africa-should-they-be-overhauled-they

RTI International (2015). *Status of Early Grade Reading in Sub-Saharan Africa*. Washington, DC: U.S. Agency for International Development. https://www.globalreadingnetwork.net/sites/default/files/media/file/Status%20of%20Early%20Grade%20Reading%20SSA%20to%20USAID.pdf

Sabates, R., Carter, E., & Stern, J. M. B. (2021). *Using educational transitions to estimate learning loss due to COVID-19 school closures: The case of Complementary Basic Education in Ghana.* International Journal of Educational Development, 82, 102377. https://doi.org/10.1016/j.ijedudev.2021.102377

Sandefur, J. (2022). *Uganda's Record-Breaking Two-Year School Closure Led to… No Decline in the Number of Kids Who Can Read?* A CGD Commentary and Analysis Blog. Retrieved from https://www.cgdev.org/blog/ugandas-record-breaking-two-year-school-closure-led-to-no-decline-number-kids-who-can-read

Santally, M., Allotey, S. A., Das, R., Mahama, A., Mutegi, L., Odhiambo, B. O., Taroaniara, R. (2021). *Harnessing ICT and Digital Low-Cost Solutions While Ensuring Access, Equity and Safeguarding During and Post-COVID-19*. In A. Osman & J. Keevy (Eds.), The Impact of COVID-19 on Education Systems in the Commonwealth. Commonwealth Secretariat. https://library.commonwealth.int/Portal/DownloadImageFile.ashx?objectId=8463

Sintema, E. J. (2020). *E-Learning and Smart Revision Portal for Zambian primary and secondary school learners: A digitalized virtual classroom in the COVID-19 era and beyond*. *Aquademia, 4*(2), ep20017. https://www.aquademia-journal.com/download/e-learning-and-smart-revision-portal-for-zambian-primary-and-secondary-school-learners-a-digitalized-8253.pdf

Spiteri, J., Deguara, J., Muscat, T., et al. (2022): *The impact of COVID-19 on children's learning: a rapid review.* Educational and Developmental Psychologist, http://dx.doi.org/10.1080/20590776.2021.2024759

Teräs, M., Suoranta, J., Teräs, H., & Curcher, M. (2020). *Post-Covid-19 Education and Education Technology 'Solutionism': a Seller's Market.* Postdigital Science and Education, 2(3), 863-878. http://dx.doi.org/10.1007/s42438-020-00164-x

UN. (2021). *77 million children have spent 18 months out of class: #ReopenSchools urges UNICEF*. Retrieved from https://news.un.org/en/story/2021/09/1100072

UN OCHA. (2020). *Cluster status: Education*. Retrieved from https://reports.unocha.org/en/country/zambia/card/2lRp5OHgis/

UNESCO. (2016). *The cost of not assessing learning outcomes*. Retrieved from Montreal, Canada: http://uis.unesco.org/sites/default/files/documents/the-cost-of-not-assessing-learning-outcomes-2016-en_0.pdf

UNESCO (2020). *Ensuring effective distance learning during COVID-19 disruptions: Guidance for teachers*. Education 2030. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000375116

UNESCO. (2020). *Learning through radio and television in the time of COVID-19*. Retrieved from https://en.unesco.org/news/learning-through-radio-and-television-time-covid-19

UNESCO. (2021a). *Learning Loss: Monitoring Impacts on Learning Outcomes (MILO).* COVID-19 Response. Retrieved from http://covid19.uis.unesco.org/school-closures-survey/

UNESCO. (2021b). *Southern and Eastern Africa Consortium for Monitoring Educational Quality.* Planning education, building the future. Retrieved from http://www.iiep.unesco.org/en/our-expertise/sacmeq

UNESCO, UNICEF, & World Bank. (2020). *What Have We Learnt?* Overview of Findings from a Survey of Ministries of Education on National Responses to COVID-19. Retrieved from Paris, New York, Washington D.C: https://openknowledge.worldbank.org/handle/10986/34700

UNICEF (2020). *Côte d'Ivoire: COVID-19 Situation Report – #14.* https://reliefweb.int/sites/reliefweb.int/files/resources/UNICEF%20Cote%20d%27Ivoire%20COVID-19%20Situation%20Report%20No.%2014%20-%204-17%20July%202020.pdf

UNICEF. (2020a). *Country Office Annual Report 2020, Comoros*. Retrieved from Comoros: https://www.unicef.org/media/100581/file/Comoros-2020-COAR.pdf

UNICEF. (2020b). *Covid-19: Are children able to continue learning during school closures? A global analysis of the potential reach of remote learning policies using data from 100 countries.* Retrieved from New York: https://data.unicef.org/wp-content/uploads/2020/11/RemoteLearningFactsheet_Updated.pdf

UNICEF. (2020c). *UNICEF and partners hand-over home learning materials to support children during COVID-19* https://reliefweb.int/report/uganda/unicef-and-partners-hand-over-home-learning-materials-support-children-during-covid-19

UNICEF. (2021). *Reopening With Resilience: Lessons from remote learning during COVID-19 in West and Central Africa*. Innocenti Research Report. https://www.unicef-irc.org/publications/pdf/Reopening-with-Resilience.pdf

UNESCO (2022). *COVID-19 in Sub-Saharan Africa: Monitoring Impacts on Learning Outcomes Main Report*. C.P 250 Succursale H Montréal, Québec H3G 2K8 Canada: UNESCO Institute for Statistics. https://milo.uis.unesco.org/wp-content/uploads/sites/17/2022/01/MILO-Summary-Full-Report.pdf

Verma, K., Bhattacharyya, R., & Wilson, H.-M. (2020). *Assessing Foundational Learning for all Children during and after the COVID-19 Crisis*. Retrieved from https://learningportal.iiep.unesco.org/en/blog/assessing-foundational-learning-for-all-children-during-and-after-the-covid-19-crisis

World Bank. (2019). *Ending Learning Poverty: A Target to Galvanize Action on Literacy*. Retrieved from https://www.worldbank.org/en/news/immersive-story/2019/11/06/a-learning-target-for-a-learning-revolution

World Bank. (2020a). *Education Emergency Response to COVID-19: Project Information Document*. Retrieved from http://documents1.worldbank.org/curated/en/339361603916667593/Djibouti-Education-Emergency-Response-to-COVID-19-Project.docx

World Bank. (2020b). *Survey on national education responses to COVID-19 school closures*. from World Bank https://datacatalog.worldbank.org/dataset/survey-national-education-responses-covid-19-school-closures

Zanzibar Examinations Council. (2020). *Solutions adopted by Zanzibar regarding high stakes examinations and learning assessments*. Retrieved from IICBA UNESCO: http://www.iicba.unesco.org/sites/default/files/sites/default/files/ZEC%20PRESENTATION%202020.pdf

Zayambika, O. (2020). *Malawi: Learning Amidst Covid-19*. Malawi News Agency (Lilongwe)https://allafrica.com/stories/202010280954.html