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Education Inequality in the COVID-era: Learning Loss, Assessment, and Recovery Policies

Nanyonjo Sauda

Science Education Kampala International University Uganda

Email nanyonjosauda@kiu.ac.ug

ABSTRACT

The COVID-19 pandemic triggered unprecedented disruptions in education systems worldwide, leading to significant learning losses and exacerbating pre-existing inequalities across socio-economic, geographic, and demographic lines. This paper examines the nature, extent, and distribution of pandemic-induced learning loss, with particular attention to disparities affecting vulnerable populations such as low-income students, girls, and those with limited access to digital resources. Drawing on global evidence, the study explores key mechanisms that intensified educational inequality during the crisis, including unequal access to remote learning, reduced instructional time, and variations in home learning environments. It further evaluates the role of assessment systems and emerging methodologies used to measure learning loss, highlighting both their contributions and limitations. The paper also critically analyzes policy responses and recovery strategies implemented across diverse contexts, including remedial and catch-up programs, curriculum adjustments, teacher professional development, and targeted resource allocation. While some interventions demonstrate promise in mitigating learning loss and supporting re-engagement, others reveal unintended consequences such as increased assessment pressure and neglect of student well-being. The findings underscore the importance of equity-centered, data-driven, and context-sensitive approaches to education recovery. Ultimately, the study argues that addressing COVID-era educational inequality requires not only short-term remediation but also long-term systemic reforms aimed at building more resilient, inclusive, and adaptable education systems.

Keywords: Learning Loss, Educational Inequality, COVID-19 Pandemic, Remote Learning and Education Recovery Policies.

INTRODUCTION

The COVID-19 pandemic disrupted education systems worldwide, interrupting learning for billions of students; an unprecedented event affecting education and social interactions at an unprecedented scale [1]. The education disruptions during the pandemic considerably widened the already existing educational inequality among students [2]. Although education has never been equal, reports have turned education inequality into a highly visible problem. According to various assessment indicators, learning loss occurred in almost all countries but was uneven across countries, regions, and cohorts. The challenging inequalities that existed prior to the pandemic have become amplified [3]. The future of economy and society will depend on how the learning loss accumulated during the pandemic can be mitigated. Both the duration and magnitude of time spent learning outside the classroom can have highly divergent consequences depending on when it occurs, along with differential accumulation of material and other resources [1, 2].

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Conceptual Framework

Educational inequality existed before COVID-19 and systematic efforts to assess its status are still needed [1]. It is believed that the pandemic has exacerbated inequalities in education. Despite widespread school closures, access to remote learning and digital devices was uneven [2]. School systems that responded promptly with remote learning strategies, clear communication and guidance for parents and students, and support for vulnerable populations were better able to maintain instructional continuity. Data collection systems must be modernized to monitor ongoing challenges and inform the design of recovery strategies [3].

Definitions of Learning Loss and Equity

Learning loss during the Covid-19 pandemic refers to the decline in students' academic progress due to school closures and remote learning. Various organizations, including McKinsey, Stanford University's CREDO, NWEA, the Annenberg Institute, and OECD, have estimated significant learning losses, with some reports indicating students were three to five months behind in various subjects [3]. These estimates have raised concern among policymakers, educators, and families about the impact of school disruptions and the need for remedial actions.

The learning loss due to the pandemic appears to be larger for more disadvantaged children, though still apparent in more advantaged children [1]. Data suggest that students in economically disadvantaged states such as Chhattisgarh have fallen further behind relative to peers. Differences in learning equity in India may have diverged further; students who were worse off seem to have suffered most during the pandemic. Improving the data ecosystem is essential to identify where efforts should focus, support capacity-building for evidence collection, and enhance decision-making at the government level for resource allocation and teacher deployment [4]. Global learning losses among primary and secondary students in 2020–2021 show significant heterogeneity and widening disparities across regions and income groups [2]. Female students suffered higher learning losses, exacerbating gender inequality in learning scores. School closures, increased drop-out rates, reductions in learning time, and decreased educational investment contributed to these disparities. Students from poor families faced worsened educational opportunities, with many losing access to schooling [5]. Technology-aided after-school programs can improve learning and help reduce losses. Girls' access to education is particularly limited in crisis-affected areas, and online learning may widen the gender gap. Girls are also more vulnerable to risks such as violence, early marriage, and dropping out due to socioeconomic stresses [6]. Addressing these issues requires equitable policies focused on supporting vulnerable regions and populations, especially in South Asia and Sub-Saharan Africa. Higher support for girls and investments in education systems are vital. The study's estimates are provisional, and long-term impacts remain to be studied. Inequalities at subnational levels are also likely to be significant [7].

Theoretical Models of Inequality in Education

Educational inequalities form a structural feature across countries, establishing a distinct advantage for the children of privileged families [1]. Specific life-cycle occurrences, such as school interruptions, teachers' strikes, changes in family structure, etc., may cause a temporary learning loss to all students such that they are affected asymmetrically, whereby students from low-income families fall further behind their wealthier peers. The COVID-19 pandemic constituted one such shock to students' education. In many countries, schools were ordered to close, disrupting face-to-face instruction [2]. Parallel to other countries, schools across Chile also closed, and remote learning alternatives were deployed. In this case, students coming from low-resourced households suffered more severe impacts and slower recovery [3]. Various theoretical perspectives account for educational inequality. The first set develops from the resource-based view of educational inequality, which postulates that parental resources time, money, and knowledge contribute actively to students' learning and therefore, household resources convey an advantage to students from wealthier families [4]. A second theoretical framework follows Bourdieu's cultural capital theory and postulates that access to cultural resources is another form of strategic distinction across social classes, differentiating students from rich and poor families [5]. Bourdieu identifies three main areas of cultural capital. A first area accounts for material benefits afforded by wealthy families, enabling broader access to both formal and informal learning engaged with books, music, and arts, artistically-enriched environments. Such materials are neither owned nor sought after by families from lower socio-economic context [6]. A second area captures access to knowledge, information, and habits regarding the schooling system in terms of enrollment, schedule, homework assistance, discipline, interactions with teachers, etc. Students from affluent families acquire knowledge of the schooling system, thus knowing effectively the do's and don'ts, whereas students from lower-income context usually lack it [7]. Finally, a third area encompasses access to highly educated adults who stimulate cognitive or non-cognitive skills through conversation, leisure, and other informal activities. Children from wealthier families regularly engage with higher-educated adults, while those from lower-resource families seldom do [5].

Mechanisms of Inequality Exacerbation During the Pandemic

Access to educational resources whether physical materials or digital tools affects learning opportunities. Unequal access to these resources can drive disparities in achievement between students, deteriorating equity and employment prospects [4, 5]. Before and during the pandemic, students in high-income households had greater access to educational resources than their low-income peers. Access to at-home educational resources is positively associated with the time spent on school tasks, and school closures triggered greater educational activity in relation to educational resources [4]. When lockdown started, continuity of instruction and educational resources were less available to eighth-grade students in low-income than in high-income neighborhoods [6]. Consequently, the time allocated to school-related activities increased less among students in low- than in high-income sectors. Studies based on Brazilian data indicated that pandemic restrictions decreased overall school attendance and time spent on educational activities, with the losses higher for disadvantaged pupils [7]. School closures levelled instructional time, but unequal access to home-based resources, instruction, and supervision opened different avenues for alternative learning. In the UK, the likelihood of receiving frequent remote instruction increased for pupils from economically advantaged backgrounds [8]. The share of pupils reporting more time spent learning at home grew during the crisis, with the change occurring mainly among socially privileged pupils. Educational inequality did not change consistently in the aggregate, but growing evidence across diverse contexts suggests a deterioration of socio-economic and geography-related inequality [9]. Remote instruction had a less intense impact on learning when it could supplement or replace in-person educational activities. In virtual settings, interaction with teachers and peers and the provision of tasks tailored to individual students were critical, yet these conditions were rarely fulfilled [10]. Material deprivation and unstable home situations severely constrained schooling opportunities. School meal support for disadvantaged families fell short when service delivery occurred outside schools, especially if communication relied solely on paper. In several countries, remote instruction inadequately covered the curriculum [11]. Even with established remote instruction, curricular engagement did not meet pre-crisis levels. These gaps became more insurmountable when virtual interactions remained restricted. Digital divides in availability of equipment and connectivity limit the potential of remote instruction to equalise educational opportunities. In Ireland, the share of children receiving any form of schooling decreased with the internet capability of the household [12]. Young students from socio-economically or geographically disadvantaged backgrounds faced additional burdens from remote education because parental time, guidance, and digital access were still essential for independent learning [13]. A decomposition analysis of learning differentials derived from regular testing in primary and secondary education attributes to socio-economic backgrounds the largest contribution to widening inequality gaps. The digital divide persists alongside the availability of e-learning as a potential remedy [14]. On broadly accessible academic platforms, the percentage of pupils engaging with digital content during lockdown was lowest in socially disadvantaged schools. Participation on such platforms within the first two weeks of the lockdown also registered the sharpest drop among the schools considered most vulnerable [15]. School closure interrupted education, but the extent and character of segregation among pupils depended on the availability of physical and digital learning supplies, either at home or in access to nearby institutions. Many children could take part in individual or collective educational activities in their communities, whereas others had to rely on their own resources [16]. Differential availability of support at home during the pandemic affected learning opportunities. In the absence of after-school programs and services, greater socio-economic inequalities emerged in holiday learning. When support during the crisis was measured by parental educational attainment, the share of children without supplementary educational activities at home rose [17]. US adolescents exposed to the crisis under broad parenting and educational experience exhibited lesser learning losses. Children living with both biological parents, and in a two-parent family with at least one parent holding a college degree, faced smaller declines in educational attainment [18]. During the pandemic, measures to contain the virus triggered contraction of learning activities. Economic distress due to health-pressure management or lockdown-hit activities could disrupt schooling as well. National data indicate that no broadly maintained observable dimension of school attendance or educational activity improved, and various indicators highlighted mounting early-drop-out risk. Education plays a pivotal role in human development and economic unlocking [19]. Economic vulnerability intensified among already exposed vulnerable groups but reached broader strata than in earlier crunches. Children from these households encountered greater training-even-drop-out setbacks than in prior slumps [20]. In Brazil, worker-driven economic decline impeded household learning transmission channels, though external job burdens remained predominant [21].

Access to Learning Resources

Access to learning resources was severely hampered by the COVID-19 pandemic and associated school closures. Remotely conducted surveys of teachers at the time indicated that considerable numbers of students were unable to continue learning during lockdowns, resulting in major disruptions to their schooling and disengagement from

learning altogether [6]. For instance, during the early stages of the pandemic, some 50–60% of children in Africa, North America, and Western Europe received either no instruction or lessons directly from teachers, significantly affecting subsequent learning outcomes [2]. Access to such resources was not uniform, however; the lack of educational materials and a conducive learning environment impacted student engagement differently across regions and income levels [3]. When schooling switched to hybrid or fully remote modes, countries with better access to and adoption of online resources, such as the majority of low- and middle-income countries in Latin America, Sub-Saharan Africa, and the Caribbean, exhibited greater resilience. Examining the impact of school closures on student engagement, participation, and learning remains thus critical in addressing widely diverging education trajectories [4].

School Closures and Instructional Time

School closures during the COVID-19 pandemic have had a significant impact on education systems worldwide, with students missing a considerable amount of instructional time [12]. As a result, large socio-economic, geographic, and demographic disparities have emerged in exposure to school closures [7]. Before the pandemic, students in low- and middle-income countries received less instructional time than their high-income counterparts, and the gap is expected to widen due to the differential impact of closures [11]. The risk of exposure to closures has remained higher in urban areas compared to rural areas. In the U.S., Black, Hispanic, and Asian students faced higher exposure to remote instruction during the pandemic than their white peers [10]. As early as May 2020, students from low-income families were nearly four times more likely to attend schools that were fully closed than students from high-income households. These disparities in access to education are likely to worsen existing educational inequalities [8].

Digital Divide and Remote Learning

The sudden shift to remote learning during the spring of 2020 not only resulted in widespread interruptions to formal schooling but also increased the importance of students' home environments as a source of learning [1]. An unequal access to the resources available in these home environments risked widening educational inequalities. The foundation for ensuring that all students can engage in remote learning is access to devices for connected learning and the connectivity to make use of them [2]. A novel indicator of students' reachability for remote learning, together with the availability of devices for educational use at home highlights that, while generally high-income countries achieved good levels of reachability at the national level, certain regions of even these countries exhibited marked inequalities [3]. For example, while the rollout of remote learning was constrained in numerous high- and middle-income countries, particularly in the Europe and Central Asia region, such implementation was even more limited in territories with a larger presence of refugees and internally displaced populations, represented mostly by low-income economies [4]. Available measurements of access to devices point towards unequal distribution both internationally and within individual countries and suggest that students from wealthier families could continue learning better than those from low-income households [5]. Both the supply of suitable devices and the ability to make effective use of them play a role in students' successful engagement with remote learning [9]. Consequently, the promotion of robust digital solutions well beyond the time span covered by the recession is highly recommended to avoid the risk of further exacerbating the deeper and longer-lasting educational inequities within and across a variety of other vulnerable contexts [8]. The growing concern over students' home access to technology has been epitomized by the term "digital divide." Indeed, during the pandemic, the digital divide, which includes infrastructure, devices, access to different kinds of data services, and digital skills turned out to be a major barrier to equitable learning opportunities for students of all socioeconomic backgrounds not only in high-income countries but also in low and middle-income countries [15]. The World Bank has estimated that even before the pandemic began, 36 per cent of students worldwide could not connect to the internet, with the situation proving particularly dire in rural and less affluent urban areas [11]. However, many educational institutions worldwide were able to pivot to remote learning during the COVID-19 pandemic [10].

Support for Vulnerable Student Groups

The pandemic has worsened learning among vulnerable student groups, such as students with disabilities and girls, by amplifying pre-existing inequities and limiting opportunities [13]. Research demonstrates that social support is a key factor in their engagement and mental well-being [11]. Such support counteracts isolation and fosters collaboration and connection with teachers and peers. As a result, as schools reopened after lockdowns, vulnerable groups remained more disengaged from learning than others. These groups include students with disabilities and girls, particularly in fragile contexts, who were less likely to resume face-to-face schooling [2]. Moreover, school closures have exposed a broader set of challenges for girl students, including gender-based violence, early marriage, and dropout risk [13]. Guidelines for engaging these vulnerable subpopulations should consider their distinct needs. While provision of social opportunities, emotional support, and flexible re-

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engagement strategies has been found helpful, one-on-one interactions involving assessment or guidance appear detrimental [14]. Time and space to reconnect socially form consistent priorities, alongside monitoring and follow-up interventions to prevent deeper disengagement from learning and socialization. Workshops are recommended to develop additional or alternative catch-up approaches in light of these insights [15].

Measurement and Evidence of Learning Loss

Estimates of learning loss during the COVID-19 pandemic by various authors indicate the significance of the disruption. McKinsey 3 found mathematics learning loss to average three months, with students of color lagging behind by three to five months and white students by one to three months [9]. The Center for Research on Educational Outcomes (CREDO) estimated a loss of 57 to 183 days in reading and 136 to 232 days in mathematics by spring 2020. The OECD projected potential economic costs of up to \$14 trillion over eighty years [10]. These estimates have generated widespread concern among educators and policymakers regarding the impact of school disruptions on student learning and the urgent need for recovery strategies [13]. Studies of actual learning loss provide further insight into these trends. Preliminary evidence suggests greater average loss among more disadvantaged students, but students from more advantageous backgrounds also experienced substantial disruption [1]. The degree of learning loss appears correlated with contextual factors such as the initial level of academic performance and the extent of instructional disruption. In India, for example, students in economically disadvantaged states including Chhattisgarh lag significantly behind peers in higher-performing states [2]. Within states, differences in educational equity may have further widened, with children from lower-educated households, and especially those in the early grades, sustaining the most severe setbacks [3]. Cross-national comparisons are also informative. A crisis in learning achievement, especially among girls, has been documented across more than fifty countries [2]. Global trends point to a loss of 0.8 years of schooling, with particularly sharp setbacks observed in low and middle-income countries, especially in South Asia and Sub-Saharan Africa. Even as other countries recover, systemic vulnerabilities may constrain educational recovery, and protracted conflict could exacerbate these challenges [5].

Standardized Assessments and Alternative Indicators

As 2020 came to a close, several national, regional, and international large-scale standardized assessment programs had already identified anticipated significant learning loss [9]. However, the lack of resources for data collection at the time prevented the measurement of such learning loss compared to previous years. Each assessment then had to resort to standardization methods based on several decades of global data, which at best could only provide rough indications of probable learning loss [8]. All evidence, of course, pointed towards worse outcomes in poorer countries, disadvantaged students, and vulnerable groups [12]. In January 2021, the World Bank launched an open repository of learning loss estimates, in collaboration with the UNESCO Institute of Statistics and the United Nations Children's Fund (UNICEF)[5]. Given the complete unavailability of data to compare students who had engaged in remote learning with those who had not, one of the provisional indicators adopted for La Cartographie de la Pénurie d'Apprentissages à l'Échelle Mondiale (CAPA) concentrated on estimating access to remote learning and collating socio-economic indicators at the local level [7]. Despite remaining indirect, this approach suggested that countries where access to remote learning was markedly unequal experienced worse outcomes [1].

Longitudinal Studies and Meta-analyses

Longitudinal studies and meta-analyses conducted in diverse educational contexts underline the significant negative impact of school closures on student learning during the COVID-19 pandemic [7]. In general, focus on the secondary level across multiple countries reveals that learning losses were substantial and unequally distributed, with vulnerable student communities disproportionately affected [13]. Multiple studies confirm the adverse consequences of the disruption on student learning [11]. These analyses supplement assessments with evidence that schooling time, mode of instruction, work completion, and receptivity or engagement can also serve as valid proxies for learning in the absence of actual performance data [2].

Cross-national Comparisons

Systematic efforts have been made to estimate the extent of learning loss incurred during the COVID-19 pandemic [10]. Early projections of potential learning loss in Europe utilized pre-pandemic test scores from the Trends in International Mathematics and Science Study (TIMSS) to model expected learning trajectories towards the next cycle of assessment [13]. An analysis of 4th-grade mathematics scores indicated that, on average, students in 21 out of 36 countries and economies were expected to experience some degree of learning loss [14]. Beyond this initial estimate of potential loss, a cross-national study using national administrative data examined aggregate learning loss for primary- and secondary-level assessments in 37 countries and economies [2]. Two indicators of loss were computed: [1] the percentage of students reported to be below the minimum proficiency threshold and [2] the percentage-point change in the overall national mean proficiency. National estimates were further

disaggregated by urban and rural subgroups, allowing for an analysis of spatial inequality. Improvements in children's reading skills exhibited a countercyclical trend during school closures, reflecting an increased focus on remote learning, while acquisition of basic numeracy skills showed a procyclical trend [4]. The extent of learning loss depends not only on the duration of school closure and the availability of online or take-home pedagogic resources, but also on the adjustment of the curriculum and the formal or informal learning support provided to students from disadvantaged backgrounds [6]. Tentative conclusions indicate that many countries that prioritised the reopening of schools and devoted considerable efforts to building back better have achieved relatively more equitable recovery [7]. Where pandemic recovery packages have included substantial investment in continuous professional development for educators, many national assessments indicate that levels of learning have bounced back to, or even beyond, pre-pandemic averages [8].

Policy Responses and Recovery Strategies

The following policy responses have been identified to address the detrimental effects of COVID-19 and reinforce education equity. Remedial and catch-up programs have been in demand throughout the pandemic [15]. Curriculum and pacing adjustments have been made, from policies to keep the curriculum intact during school closures to policies to reduce it afterward [16]. Professional development opportunities for teachers have been expanded while the volume of assignments has been reduced. Strategic resource allocation has been proposed in terms of the geographic distribution of students and institutions. Policy measures have been formulated around a goal of advancing equity [1,15].

Remedial and Catch-up Programs

Countries around the world are implementing a broad range of remedial programs intended to help students recover from the learning disruptions caused by the COVID-19 pandemic [14]. Given that learning losses seem to have been largest among vulnerable groups [1], these initiatives are typically designed with equity concerns in mind. Such programs may take several different forms, including (but not necessarily limited to) after-school classes, summer schools, and other additional instructional time, thus conveying a mixed message on the duration or breadth of the disruption [12]. Similar remedial programs were already commonplace before the pandemic [16]. In many countries, these options are accompanied by design features intended to satisfy common recovery conditions: for example, they target specific content rather than the full curriculum, focus on targeted skills rather than global progress, and offer non-completion incentives or explicit opportunities for student voice [17].

Curriculum Adjustments and Pacing Guides

Targeted curriculum adjustments guided by systematic pacing frameworks can effectively address the adverse effects of the COVID-19 crisis on student progress and support their recovery. In numerous contexts, vulnerable learners have fallen further behind established grade-level benchmarks [4]. The stakes are particularly high in the wake of pandemic-related disruptions: by 2017, about 4% of in-school students learned almost nothing due to limited access to school or the inability to keep pace with instruction. Attaining minimum proficiency in reading and mathematics, defined as Level 2 on the Programme for International Student Assessment (PISA) scale, remains a priority within Sustainable Development Goal [4]. Without timely intervention, the proportion of students projected to reach this benchmark by the end of the lower secondary cycle shrinks precipitously in the aftermath of learning shocks [13]. For instance, under one set of assumptions, the proportion of grade 3 learners expected to meet the Sustainable Development Goal minimum level by the end of grade 10 declines from 7% to 3%. Halving grade-3 learning gains, to reflect anticipated losses associated with extended school closures, precipitates a 5-year setback in progress [12]. Under these conditions, more than 80% of grade-10 students remain below the Sustainable Development Goal threshold; the share of learners trapped at very low achievement levels (below 200 on the PISA scale) surges to 73%, and only 2% achieve the Sustainable Development Goal target in mathematics [11]. To mitigate such outcomes and facilitate recovery, remedial instruction and reorientation towards grade-appropriate content are urgently needed [16].

Teacher Professional Development and Workload

During the COVID-19 pandemic, teachers experienced increased workload, amplified pressures, and stressed sources of inequity, leading to heightened levels of exhaustion, anxiety, and turnover intent [17]. School closures necessitated abrupt transitions to remote or hybrid instruction, requiring new pedagogical approaches that many educators lacked the skills, time, and materials to implement [16]. Teachers expressed inadequacy at delivering online content, particularly the youngest learners who needed detailed instruction and support in subjects such as literacy, and students fell significantly behind, compounding risks for those most affected by school disruption. Many regarded educational recovery as a safe-brain initiative, but even where provisions existed, the situation only worsened [15]. Consequently, large sections of a vulnerable student group no longer could engage effectively, information-related strain intensified, other professionals appeared to increase engagement as if the fidelity of returns were sufficient, and improvement exhibited a dependency on improvements in recovery [14].

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Committing to an explicit focus on learning loss among disadvantaged students in any subsequent recovery strategy would therefore appear to have value. This may conceivably mitigate scheduling pressures without exacerbating other burdens [13].

Resource Allocation and Funding Mechanisms

Resource allocation and funding mechanisms are essential determinants of addressing the educational inequalities exacerbated by the COVID-19 pandemic [1]. Considerable effort has been devoted to understanding pandemic-related learning losses and the widening of educational gaps across different student populations [2]. However, these studies focused predominantly on measurement rather than on the factors that can reduce learning gaps post-COVID. While educational inequality is a long-standing global challenge, the pandemic represents a new threat, potentially jeopardizing students' future employability [3]. Monitoring the evolution of existing learning gaps and evaluating the impact of recovery interventions implemented during the crisis are therefore critically important. The analysis of sub-national and regional inequalities in learning loss is equally crucial, but systematic evidence on these topics is still limited [5]. Efforts to strengthen data collection at both the system and school levels remain vital for ensuring that recovery policies are effectively informed. At the system level, national governments need reliable information on students' learning achievements quantifying the extent and determinants of learning loss are critical for prioritizing funding and deploying other relevant recovery measures [16]. At the school level, data should enable teachers and education professionals to better understand students' learning needs [11]. Interview results in Brazil suggest that resource allocation and funding mechanisms constitute further important governance challenges affecting the design and implementation of recovery measures. School systems need to modify the distribution of financial and material resources across different types of schools, depending on specific contexts, in order to enhance equity in learning recovery after the pandemic [18].

Education Equity-centered Policy Design

During the COVID-19 pandemic, education systems worldwide saw unprecedented disruption induced by school closures, the pivoting of instruction to remote modalities, and severe limitations on student-movement due to lockdowns [5]. Despite some variation across contexts, students likely lost extensive time from their scheduled curriculum, contributing to a widening of inequity in education [1]. Evidence suggests that more vulnerable populations among school-aged children and youth such as economically disadvantaged families, children with disabilities, and girls in some countries experienced larger declines in daily engagement with learning, access to educational resources, and opportunities for school-based support during the COVID-19 lockdown, further widening equity gaps [19]. Events before, during, and after the pandemic have tended to advantage already-privileged groups of students, leaving others with even fewer opportunities to learn and succeed in school. Moreover, governments and education systems now face an additional challenge of re-engaging and supporting populations that call into question educational obligations or express interest in alternative forms of schooling [18].

Case Studies by Context

The COVID-19 pandemic has created unprecedented challenges for education sectors around the world, particularly those serving marginalized and vulnerable communities [16]. Georgia's education system has had a mixed response to the crisis, with government estimates indicating only minor effects at the national and state levels. The estimates are based on data from show-up and assessment rates as well as funding allocation trends, which have been affected by limited two-way communication with schools [15]. Nevertheless, many signs indicate potential serious learning losses: student retention and promotion rates have fallen, schools have applied to receive additional funds for summer programs, and statewide external assessments and research by educational municipalities suggest learning recovery is not occurring as expected. Collectively, these indicators reveal a probable threat of long-term learning losses [20]. In response to the challenges caused by the pandemic and the need for a more comprehensive approach to education, Georgia is focusing on four main areas: expanding access to broadband services across the state, updating programs to better meet 21st-century learning needs, strengthening longer-term partnerships with other ministries to deliver education beyond conventional settings, and enhancing existing technology support to advance students' digital literacy [16]. Access to education is viewed as a critical 21st-century competency, and Georgia aims to provide inclusive, anticipative, and proactive supplies, services, and content in education even when schools are closed or conduct hybrid training [14]. The 2SLS strategy developed and applied by Georgia is mainly based on national-level analysis. The numbers regarding the education transition and the expected effect of the crisis on education are based on the Cameroonian national context and data [13]. However, data and analysis from education municipalities in the South-West and Far North provide additional evidence on plausible proxies for the current education crisis and the factors impacting education recovery in Georgia following the initial crisis [1]. This potentially allows drawing more context-specific lessons and observations pertaining to the formulation of the education recovery framework [2].

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High-income Settings

The COVID-19 pandemic has slightly delayed long-term declines in planned instructional time in high-income countries [19]. Before the pandemic, UNESCO estimates indicated a decrease of one hour annually in several high-income countries; the disruption temporarily halted the decline but countries are returning to earlier rates of instructional time loss, suggesting little long-term impact [18]. Learning loss in high-income nations, where substantial recovery was already underway, needs to be understood better particularly how it has affected the most disadvantaged students and how to tailor programs to accelerate their progress [1]. Learning loss in high-income settings is most often considered through the lens of educational assessments; direct measures of student acquisition of knowledge and skills have provided substantial guidance [17]. Systematic analysis of students' attainment in eight education systems: Australia, Canada, England, Finland, France, Singapore, the United States, and the Netherlands allowed early estimates of the amount of learning loss to be calculated [16]. Ultimately, the magnitude of the overall learning loss varied across systems, and an equity analysis showed that those students with pre-existing barriers to learning were disproportionately affected [2].

Middle- and Low-income Settings

Learning losses caused by pandemic-related school closures affected children worldwide. However, low- and middle-income countries confronted greater learning adversity widely corroborated by evidence derived from several studies conducted in 2020 and 2021 [22]. During the early phase of a cohort-studied educational recovery program in Kenya, student assessment data suggested that pupils had returned, on average, to the same level of education attained in 2020 [20]. Attention to other countries experiencing profound setbacks during the pandemic pointed to broader equity gaps for both individuals and economies [23]. Covid-19 restricted learning for young people in South Asia and Sub-Saharan Africa even prior to school closures, and lessons learned from conditional cash support for education in the pre- and post-covid-19 era underscore the need for comprehensive programs during or after school to promote primary education access recovery above and beyond initial levels [2]. In Nigeria, no progress was registered for tens of millions of children unable to attend school beyond 2020. The likelihood of returning to school fell dramatically for young people lacking pre-pandemic access [21]. Coalitions providing materials and support to adolescents and young adults outside school during closure phases show promise for broadening learning towards skill development and livelihood access [12].

Regional Exemplars and Lessons Learned

Efforts towards the recovery of learning loss and education equity vary widely between countries, and research has documented responses in many contexts [6]. Several regional examples illustrate the shared challenges of learning loss and the potential trajectories for recovery. India demonstrates the importance of sound data systems for targeted policy responses to learning loss [7]. The need for data collection is further underscored by evidence that losses differ across geographically and economically disadvantaged states. A lack of data hampers the ability to fine-tune policies and identify effective interventions to support the most vulnerable students. South Africa has prioritized recovery among its school system's lowest-performing students as indicated by the distribution of pre-pandemic assessment scores [8]. A focus on foundational skills at the primary level through teacher support and materials aims to reverse learning losses before students move on to more advanced material. In the Philippines, an initiative to reduce the curriculum and focus on a limited set of priority competencies in the early grades aims to recover the basics of literacy and numeracy [9]. Step-by-step learning progressions, well-structured teaching and assessment materials, and technical assistance to teachers support the implementation of the policy. In Colombia, a short diagnostic assessment is available before grade promotion to help teachers tailor instruction. A curriculum adjustment that prioritizes mandatory subjects and limits exploratory learning in other subjects is also in place. These regional approaches highlight the significance of evidence solutions and the prioritization of low-performing students in the learning recovery process.

Evaluation of Recovery Policies

Policies aimed at recovering from the educational impact of COVID-19 encompass a variety of approaches to address learning loss and re-engagement, particularly for students who experienced the most significant and ongoing disruptions [3]. Initial responses included catch-up programs, curriculum adjustments, and prioritization of vulnerable populations; yet early assessments indicated that students' greatest needs lay in the social-emotional domain rather than remediation of lost skills [1]. As new evidence emerged, some authorities shifted to post-disruption assessments, additional funding disbursements, or learning assessments targeting support for under-resourced communities. Indicators of re-engagement during disruptions pointed to renewed school attendance, participation in catch-up measures, and engagement with additional support; experts cautioned that catch-up programming devoid of considerations for mental well-being risks exacerbating long-term inequities [3]. A review of empirical studies reveals that strategies and recovery policies addressing the educational fallout of COVID-19, though widely adopted, tend to overlook equity dimensions in evaluations of short-term impact. When

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information on intended policy effects is readily available, detailed studies identify mechanisms through which interventions operate. Other analyses remain exploratory at this stage, lacking sufficient data to determine how common recovery strategies intersect with education-equity goals [4]. Policymakers scrutinizing the equity implications of catch-up and recovery initiatives must therefore transcend traditional approaches to equity assessment and pursue additional avenues to gather the contextual information necessary for informed decision-making [5]. The situation is further complicated by uncertainties surrounding the medium- and long-term consequences of educational disruption and the optimal form of recovery [6]. Various settings around the world present evidence on recovery-strategy adoption and implementation in response to COVID-19 disruptions, offering perspectives on school-level and national approaches [6]. Generally applicable lessons derive from the experiences of high-income countries and regions, where catch-up measures, adjustments to learning content, and flexible administrative support have emerged as frequent policy responses [5]. Examples of implementation in middle and low-income contexts including dual strategies that pair re-enrollment and catch-up initiatives contribute to the evolving understanding of educational recovery. Case studies focused on distinct pedagogies and modes of instruction provide further insights into specific approaches [6].

Short-term Outcomes and Learning Re-engagement

Schools across the globe returned to in-person learning during 2021–2022, following periods of remote teaching [5]. Initial efforts focused on re-establishing students' connection to school, addressing academic needs, and fostering social interactions to enable students to resume their education and well-being after disruptions [13]. Evaluations of short-term outcomes indicate that recovery strategies are widely employed and that under-resourced education systems face challenges in implementing such initiatives [16]. A range of student engagement strategies emerged in response to the COVID-19 pandemic. These efforts acknowledged the heterogeneous effects of the health crisis across countries, regions, and schools and the substantial number of students whose well-being and safety were jeopardized [5].

Equity-aware Impact Assessments

The national education summits held in 2022 highlighted that previous systematic approaches to monitoring educational inequities had gained even greater importance as a result of the pandemic [1]. Education inequalities persisted in both high and low-income nations, where educational disruptions had continued for extended periods. Nations emerging from crises were urged to gather better education data [7]. The importance of monitoring educational inequities in multiple facets of social reality and at all geographical levels continued to be stressed. Despite challenges associated with Covid-19, countries still confronted large-scale youth unemployment, underscoring the need to deal with educational inequities [2].

Cost-effectiveness Considerations

Recovery programs aimed at remediating learning loss during the pandemic have demonstrated varying short- and medium-term impacts across different contexts [12]. In some high-income settings, targeted content-focused tutoring reached large numbers of students despite disruptions, catalyzing school engagement and reducing inequities in re-engagement. Middle- and low-income countries requiring extensive textbook distribution and digital connectivity faced hurdles in sustaining educational momentum. Policy visibility and future planning have often outweighed immediate relief in both high- and low-resource locations, with the content of remedial programs posing further hurdles [13]. Prioritization of learning recovery initiatives during the COVID-19 pandemic has outstripped budgets for other education programs in numerous countries [11]. However, recent initiatives to evaluate recovery measures indicate that effective interventions have frequently combined extensive programs with significant flexibility for local tailoring. In such circumstances, estimating the cost-effectiveness of recovery strategies can enhance educational recovery in both high- and low-income settings. Hence, examining cost-effectiveness has become increasingly critical in contexts still grappling with the multifaceted consequences of COVID-19. Evaluating learning recovery programs following pandemic interruptions reveals distinct short-term outcomes correlating with their cost-effectiveness [14]. Accordingly, analyses of program impacts tend to cluster under two headings: student learning re-engagement and equity-centric factors [6]. Insights borne from formal modeling underscore the increased efficacy of focused, high-intensity instruction, albeit with significant downside risks [5]. Assessing the equity-aware dimension of policy impacts constitutes a requisite complement to conventional cost-effectiveness approaches. Simulation studies confirm that students grappling with pervasive long-term learning deficits such as those across many continents stand to gain even from minimal educational service resumption [2]. Targeted learning recovery programs based on explicit instructional guidance demonstrate marked improvement over catch-up provision modes limited to resource dissemination and pedagogical advisory support. By fostering rapid transitions among instructional sequences and achieving high coverage for children and youth who had remained disconnected from available educational materials, program effectiveness across diverse settings has been bolstered [1].

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Challenges and Unintended Consequences

Learning loss caused by pandemic disruptions is a major global concern, with some recovery programs generating unintended adverse effects [8]. Widespread assessment of learning status after school lockdowns has led to school systems prioritizing recovery planning in mathematics and reading [6]. These emphasis areas reflect the widespread presumption that measured pandemic learning loss will predominantly pertain to these subjects, yet extensive estimates indicate substantial decline of education competencies beyond mathematics and reading [20]. Prioritizing remediation solely in mathematics and reading may sustain student disengagement from schooling long term, especially for struggling and demotivated learners [4]. Evaluation of numerous ongoing recovery programs indicates most initiatives promote recovery of mathematics and reading at the expense of other critical areas, while the complementary nature of subjects in science, health, arts, and physical education is overlooked [3]. Learning recovery approaches that exert excessive pressure on assessment have also inhibited timely understanding of impediments to effective learning and student re-engagement. Teachers facing assessment-induced teacher-surveillance stimulus are less likely to communicate emerging obstacles that students encounter in learning [1]. For students with inadequate prior studying habits and high learning disruptions, timely identification of exact hazards hindering learning re-engagement may remain vital to restoring timely access to remaining content [11].

Assessment Pressure and Teaching to the Test

A somewhat neglected area of research has focused on the influence of the assessment system upon educational recovery [12]. Across all contexts studied, ongoing systemic pressure towards high-stakes standardized examinations has motivated teachers to design recovery actions that minimise potential disruptions in assessment delivery [21]. While recoveries have extensively initiated in upskilling post-lockdown routines, these initiatives risk being curtailed in favour of concentrating upon strictly mandated subject matter coverage ahead of impending examinations, regardless of whether learners return to school on a full-time basis [20]. In more extreme instances, some jurisdictions have declared the postponement or cancellation of formal assessments, yet teachers continue to orient activities around these [2]. As external measures away from nationwide provisions, local education authorities or similar entities repeat the practice of imposing mandatory comprehensive diagnostics to evaluate the system-wide degree of recovery realised, despite not demanding incorporation of formal dissemination of such information within their arrangements [22]. Such extended pressure compromises learners' wellbeing further still and aligns schooling inextricably towards merely teaching to the test, thereby narrowing the breadth of knowledge imparted and compound pre-existing inequalities. Even when stipulated pedagogy remains outside the scope of individual teachers' contracts, such obligations remain instrumental in shaping the nature of delivered instruction [23].

Mental Health and Students' Well-being

Learning loss arising from school closures constitutes the most visible channel through which educational inequalities can escalate in the aftermath of the COVID-19 pandemic [19]. Remedial instruction, thereby, has straightforward merit as a pivotal component of recovery packages. Nevertheless, schooling upheaval has also engendered far-reaching adverse consequences for student welfare profoundly altering identities, routines, social interactions, and safety [16]. Among young Australians aged 15–24, more than 50% report detrimental impacts on mental health [23]. Mindful of such urgencies, recovery policies must not only seek to revive but also to safeguard the instructional engagement and school-connectedness on which holistic outcomes hinge. Balancing these objectives may require playing down curriculum acceleration; even where catch-up aid promises the smoothest return path, policy makers will legitimately want to weigh welfare considerations alongside learning re-engagement [14].

Implications for Policy and Practice

The pandemic's prolonged school closures and shift to distance learning heightened existing education inequalities, causing disproportionate learning loss for disadvantaged children [1]. The successive waves of the virus continue to slow the recovery of schooling systems, threatening to further increase gaps in learning equity. High levels of learner disengagement are evident in many countries, with vulnerable groups such as students from low-income households and those in rural settings often disproportionately affected [20]. They were more likely to miss classes, drop out entirely, or fail to receive timely feedback when instruction resumed. Consequently, avoiding policies that inadvertently accelerate inequality is vital for education recovery efforts [22]. Collective inquiry into the policies and approaches employed across disparate contexts can inform the design, reformulation, and implementation of equitable recovery trajectories [23]. Prioritising stakeholder engagement at every step of the policy cycle remains crucial to ensure the effective identification of obstacles, the collective modelling of feasible responses, and the selection of appropriate and relevant solutions. Such concerted efforts will help to

deepen understanding of both the broader education ecosystem and the increasingly complex landscape of stakeholder needs and perceptions [24]

Designing Equitable Recovery Trajectories

COVID-era education disruptions exacerbate inequalities across nations, regions, and student sub-groups. While disadvantaged groups tend to suffer larger pandemic-related learning losses, estimates of the total loss diverge widely, linked to different data sources and statistical models [1]. Designed and targeted equity-centered recovery trajectories depend on meaningful and accurate measurement of both overall and disaggregated loss [24]. In education systems in which measurement and monitoring capacity is lacking, wider collaboration between different actors education ministries, local governments, statistics offices, and supplementary services is critical to assemble information on learning-related parameters [3].

Stakeholder Engagement and Governance

A significant number of children have experienced already profound learning losses; hence, it seems prudent to address existing resources in schools to avoid further losses for those who have not yet benefitted from any strengthening in the education system [15]. Furthermore, if recovery and equitable efforts are to be pursued, explicit and credible arrangements for stakeholder engagement and governance will need to be put in place, especially since school systems tend to operate according to bureaucratic rules rather than societal needs [25, 26]. Targeted measures that remained closely connected to stakeholder specifications, data, and learning trajectories continued to be implemented across boards, even when the topic of post-COVID recovery seemed to have largely fallen off of official agendas. The variations observed in allocated instruction time and specific programs aimed toward addressing learning losses across federal states in a large country such as India underscore the criticality of organized stakeholder dialogues capable of surfacing these widely shared learning-trend estimates [1]. Here as well, where much attention focuses on economic recovery measures, there is often a convergence back toward very general measures of countrywide attendance and illiteracy, as opposed to the more detailed picture of shifts in attention and priority followed in the preceding recovery dialogue [27]. Ultimately, without governance arrangements encouraging stakeholder cooperation and information-sharing grounded in agreed-upon learning trajectories, much of the effort and stimulus subsequently devoted to recovery can be expected to drift toward standard measures that do not facilitate either recovery or equity [28].

CONCLUSION

The COVID-19 pandemic constituted an unprecedented global shock to education systems, exposing and deepening pre-existing inequalities while generating substantial and uneven learning losses across contexts. Evidence consistently shows that although learning disruptions affected nearly all students, their magnitude and consequences were disproportionately borne by disadvantaged groups particularly students from low-income households, girls, rural populations, and those lacking access to digital resources. These disparities were driven by unequal access to remote learning infrastructure, variations in home learning environments, and differences in institutional preparedness for crisis response. The concept of learning loss, while widely used, reveals complex patterns: short-term academic setbacks in foundational subjects such as literacy and numeracy are well documented, yet broader impacts including disengagement, increased dropout risks, and deteriorating mental well-being underscore that the crisis extended beyond academic performance alone. Measurement efforts, though improving, remain constrained by data limitations, particularly in low- and middle-income countries, highlighting the need for more robust, disaggregated, and longitudinal data systems to guide policy responses. Recovery strategies implemented across countries ranging from remedial programs and curriculum adjustments to teacher professional development and targeted funding demonstrate mixed effectiveness. Interventions that are focused, adaptive, and equity-driven tend to yield better outcomes, particularly when they prioritize foundational learning, continuous assessment, and targeted support for vulnerable learners. However, unintended consequences such as overemphasis on standardized testing, curriculum narrowing, and neglect of student well-being risk undermining long-term recovery goals. Importantly, the pandemic has reaffirmed that education systems are deeply embedded within broader socio-economic structures. Addressing educational inequality therefore requires more than short-term remediation; it demands systemic transformation. This includes strengthening digital and physical infrastructure, investing in teacher capacity, ensuring equitable resource distribution, and embedding flexibility within curricula and delivery models. Equally critical is the integration of social and emotional learning into recovery frameworks, recognizing that student well-being is foundational to sustained academic progress. Looking forward, effective recovery and resilience-building depend on adopting equity-centered, data-informed, and context-sensitive approaches. Policymakers must prioritize inclusive governance, stakeholder engagement, and continuous monitoring to ensure that recovery efforts do not merely restore pre-pandemic conditions but actively address structural inequities. By leveraging lessons learned during the crisis, education systems have an

opportunity to “build back better” creating more inclusive, adaptable, and resilient systems capable of withstanding future disruptions while advancing equitable learning outcomes for all.

REFERENCES

1. Recch F, Petherick A, Hinton R, Nagesh R, Furst R, Goldszmidt R. Education data needs and challenges for building back from COVID-19. *Epidemics*. 2023;43:100673. doi:10.1016/j.epidem.2023.100673.
2. Wu M, Yu Q, Li SL, Zhang L. Geographic and gender disparities in global education achievement during the COVID-19 pandemic. *Int J Appl Earth Obs Geoinf*. 2022;111:102850.
3. Zhao Y. Build back better: Avoid the learning loss trap. *Prospects*. 2022;51(4):557-561.
4. Zinn S, Bayer M. Time spent on school-related activities at home during the pandemic: A longitudinal analysis of social group inequality among secondary school students. *Front Psychol*. 2021;12:705107.
5. Monroy-Gómez-Franco LA. Modelling the learning impacts of educational disruptions in the short and long run. *SocArXiv [Preprint]*. 2022. doi:10.31235/osf.io/z6x5s.
6. Avanesian G, Mizunoya S, Amaro D. How many students could continue learning during COVID-19-caused school closures? Introducing a new reachability indicator for measuring equity of remote learning. *Int J Educ Dev*. 2021;84:102421.
7. Parolin Z, Lee EK. Large socio-economic, geographic and demographic disparities exist in exposure to school closures. *Nat Hum Behav*. 2021;5(4):522-528.
8. Galasso I, Watts G. Inequalities in the challenges affecting children and their families during COVID-19 with school closures and reopenings: A qualitative study. *Public Health Ethics*. 2022;15(3):240-255.
9. Kennedy AI, Mejía-Rodríguez AM, Strello A. Inequality in remote learning quality during COVID-19: Student perspectives and mitigating factors. *Large Scale Assess Educ*. 2022;10(1):29.
10. van de Werfhorst HG, Kessenich E, Geven S. The digital divide in online education: Inequality in digital readiness of students and schools. *Comput Educ Open*. 2022;3:100100.
11. Ogenyi FC, Eze VH, Ugwu CN. Navigating Challenges and Maximizing Benefits in the Integration of Information and Communication Technology in African Primary Schools. *International Journal of Humanities, Management and Social Science (IJ-HuMaSS)*. 2023 Dec 20;6(2):101-8.
12. Smith C, Tani M, Yates S, Dickinson H. Successful school interventions for students with disability during Covid-19: Empirical evidence from Australia. *Asia Pac Educ Res*. 2023;32:367-377.
13. Alban Conto C, Akseer S, Dreesen T, Kamei A, Mizunoya S, Rigole A. Potential effects of COVID-19 school closures on foundational skills and country responses for mitigating learning loss. *Int J Educ Dev*. 2021;87:102434.
14. Engzell P, Frey A, Verhagen MD. Learning loss due to school closures during the COVID-19 pandemic. *Proc Natl Acad Sci U S A*. 2021;118(17):e2022376118. doi:10.1073/pnas.2022376118.
15. Blaskó Z, da Costa P, Schnepf SV. Learning losses and educational inequalities in Europe: Mapping the potential consequences of the COVID-19 crisis. *J Eur Soc Policy*. 2022;32(4):361-375. doi:10.1177/09589287221091687.
16. Chinyere UN, Val E. Qualitative research. *International Digital Organization For Scientific Research*. 2023;8(1):20-35.
17. Reuge N, Jenkins R, Brossard M, Soobrayan B, Mizunoya S, Ackers J, et al. Education response to COVID-19 pandemic, a special issue proposed by UNICEF: Editorial review. *Int J Educ Dev*. 2021;87:102485.
18. Kaffenberger M. Modelling the long-run learning impact of the Covid-19 learning shock: Actions to (more than) mitigate loss. *Int J Educ Dev*. 2021;81:102326.
19. Robinson LE, Valido A, Drescher A, Woolweaver AB, Espelage DL, LoMurray S, et al. Teachers, stress, and the COVID-19 pandemic: A qualitative analysis. *Sch Ment Health*. 2023;15(1):78-89.
20. Lennox J, Reuge N, Benavides F. UNICEF's lessons learned from the education response to the COVID-19 crisis and reflections on the implications for education policy. *Int J Educ Dev*. 2021;85:102429.
21. Sahlberg P. Does the pandemic help us make education more equitable? *Educ Res Policy Pract*. 2021;20(1):11-18.
22. Nneoma UC, Udoka EV, Nnenna UJ, Chukwudi OF, Paul-Chima UO. Ethical publication issues in the collection and analysis of research data. *Newport International Journal of Scientific and Experimental Sciences (NIJSES)*. 2023;3(2):132-40.
23. Casimir OA, Blake SC, Klosky JV, Gazmararian JA. Adaptations to the learning environment for elementary school children in Georgia during the COVID-19 pandemic. *J Child Fam Stud*. 2023;32(6):1585-1598.

24. Daniello R. Perceptions of middle school math and language arts teachers on high-stakes testing cultures in public schools [dissertation]. South Orange (NJ): Seton Hall University; 2018.
25. Cairns R. Exams tested by Covid-19: An opportunity to rethink standardized senior secondary examinations. *Prospects*. 2021;51(1-3):331-345.
26. Fray L, Jaremus F, Gore JM, Harris J. Schooling upheaval during COVID-19: Troubling consequences for students' return to school. *Aust Educ Res*. 2023;50(3):1533-1550.
27. Amin N, Mahabeer P. Curriculum tinkering in situations of crises and inequalities: The case of South Africa. *Prospects*. 2021;51(1-3):489-501.
28. Shultz L, Viczko M. What are we saving? Tracing governing knowledge and truth discourse in global COVID-19 policy responses. *Int Rev Educ*. 2021;67(1-2):219-239.

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