Is there Learning Continuity during the COVID-19 Pandemic?
A Synthesis of the Emerging Evidence

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Abstract: Since the onset of COVID-19, governments have launched technology-supported education interventions to ensure children learn. This paper offers a narrative synthesis of emerging evidence on technology-based education to understand the current experiences of learners, teachers and families. Studies find that few students in low- and middle-income countries have access to technology-supported learning with the most marginalised children appearing to have the least educational opportunities. As such, the education response to COVID-19 could widen existing inequalities.

Keywords: COVID-19, educational technology, learning continuity, access to education, Kenya. Senegal, Ethiopia, Mongolia, Ecuador, Vietnam, Ghana, Bangladesh.

Introduction

The COVID-19 pandemic has disrupted education worldwide. In response, a variety of alternatives to school-based learning are emerging. Many of these alternatives depend on technology, further exacerbating the digital divide and educational inequality (Bozkurt et al, 2020). In sub-Saharan Africa, for instance, UNICEF (2020) estimates that at least 49% of children cannot access remote learning via the Internet or broadcast media.

At the start of the COVID-19 pandemic, there was little data on efforts to ensure learning continuity during school closures. Recently, however, various studies have analysed the education response to COVID-19. The purpose of this note is to synthesise emerging findings from studies on learning continuity at the primary and secondary level in a sample of low- and middle-income countries (Kenya, Senegal, Ethiopia, Mongolia, Ecuador, Vietnam, Ghana and Bangladesh). These studies focus on access to learning opportunities rather than learning outcomes. Our findings can inform ongoing efforts to ensure children can access education when out of school.

This synthesis focuses on technology-supported learning continuity, which we define as everything from educational radio and television to online learning on mobile phones, tablets and computers.

Below, we discuss eight lessons that emerged from our synthesis.

Lesson 1: Children in Low- and Middle-Income Countries Have Varying Levels of Access to Technology-Supported Learning

Current evidence shows that access to educational technology — and technology-supported learning continuity — varies significantly between countries. In Senegal, a survey reported that only 10% of children have used radio or television to learn since the start of the pandemic (Le Nestour et al, 2020).

In Mongolia, access to technology-supported learning opportunities appears to be higher. A household phone survey indicated that 75% of children engaged in distance learning in the week prior to the study (World Bank & National Statistics Office of Mongolia, 2020). Popular distance learning activities included educational television (89%) and online lessons (37% (World Bank & National Statistics Office of Mongolia, 2020)). Only 2% of learners accessed educational programmes on the radio (World Bank & National Statistics Office of Mongolia, 2020).

In Bangladesh, a World Bank study found that 48% of learners who receive poverty-targeted stipends have access to television and that 39% of students have access to the Sangsad educational television channel (Biswas et al, 2020). Similarly, another phone survey revealed that only 16% of children in rural Bangladesh have accessed televised classes (Asadullah, 2020).

What does this evidence mean for policymakers? The above insights suggest that the reach of technology-supported education interventions is highly context-dependent. Depending on the context, an appropriate multi-modal or non-technological approach to learning continuity needs to be utilised.

Lesson 2: Disruptions to Educational Continuity Negatively Impact the Well-Being of Students and Teachers

School closures pose new risks to the safety and well-being of learners. Out-of-school children and young people can face pressure to work, marry and start a family. In Bangladesh, a BRAC (2020) phone survey found that the number of children working more than two hours per day to support their families economically has risen fourfold since the start of the pandemic (BRAC, 2020). Between April and June, a national youth telephone helpline in Malawi saw an 83% increase in reports of child marriage and a 150% increase in reports of child rape compared to this time last year (Rigby, 2020).

The mental health of learners can also suffer when schools are closed. In Thailand, an online survey revealed that 70% of young people feel frustrated, anxious and stressed as a result of the lockdown (UNICEF et al, 2020). In particular, respondents reported that they were worried about their education, employment and loneliness (UNICEF et al, 2020). Similarly, a World Bank phone survey in Ecuador found that children are most concerned about disruptions to their education and long periods of social isolation (Asanov et al, 2020).

The stress of lockdown — and the educational impact of COVID-19 — extends to teachers. In a phone survey in Vietnam, for example, 62% of teachers believe that the shift to online learning has increased their workload (Hoang et al, 2020). Notably, more than a quarter of teachers reported that they are stressed as a result of these increased (Hoang et al, 2020).

Lesson 3: Current Provision of Learning is Not Equitable

School closures have disproportionately affected the most marginalised children: learners from the poorest households, families with low pre-existing levels of education and students in remote areas.

Children from less affluent communities appear to have low access to learning continuity. In Ecuador, survey findings suggest that learners from the lowest wealth quartile are more than twice as likely to have completed no schoolwork than learners from the highest wealth quartile (Asanov et al, 2020). In Senegal, a survey reported that 20% of children from 'poor' households have pursued no learning activities compared to 15% of children from 'non-poor' households (Le Nestour et al, 2020). In Kenya, survey findings indicate that only 16% of learners in public primary schools have access to digital learning resources compared to 48% in private primary schools (Uwezo Kenya, 2020).

Moreover, children in rural areas have relatively limited access to technology-supported learning opportunities. In Mongolia, a phone survey found that 51% of students in urban areas have access to a computer or a laptop compared to 21% in rural areas (World Bank & National Statistics Office of Mongolia, 2020). A recent study in Ethiopia found that 38% of urban children have engaged in distance learning during the pandemic compared to 12% of rural children (Scott et al, 2020).

The educational background of parents and caregivers can also matter. A study in rural Bangladesh found that parents with secondary education spent 31% more study time with their children than parents without secondary education (Asadullah, 2020). In Ecuador, children whose mothers' education level is high-school or lower are less likely to access technology-supported learning than those whose mothers' education level is beyond high school (Asanov et al, 2020).

Based on these findings, policymakers should consider family wealth, parental education and the location of students when designing learning continuity interventions.

Lesson 4: Online Learning Platforms are Not Being Accessed by Students

Governments are increasingly using online learning platforms to store and disseminate content during school closures. However, very few students in low- and middle-income countries are accessing online resources.

A phone survey in Senegal found that less than 1% of learners have accessed online courses since schools closed (Le Nestour et al, 2020). Moreover, a recent study in Ghana indicated that only 15% of children have accessed internet-based learning materials during the pandemic (Innovations for Poverty Action, 2020). In Kenya, students and teachers identified a lack of electricity, Internet and devices as limiting their access to digital resources (Uwezo Kenya, 2020).

Even where students can access online learning, they are not necessarily using digital platforms. In Bangladesh, a survey found that only 1.5% of students with Internet access used online materials in the week before the study (Biswas et al, 2020). In Ecuador, a World Bank survey found that 74% of students have internet access at home and that 59% of students have a computer or a tablet (Asanov et al, 2020). However, only 8% of students in grades 10, 11 and 12 used the Ministry of Education's learning platform in the week prior to the survey (Asanov et al, 2020).

Before governments invest in online platforms, they need to ensure that learners have a suitable device and a desire to use the service.

Lesson 5: Device Ownership does Not Equal Learning Continuity

Recent studies have identified that even when children have access to some form of educational technology, they may still lack access to learning continuity. Effort is required to ensure students can use devices for learning with the support of their families.

In Kenya, for example, approximately 60% of students have access to radios at home yet only 19% of learners have listened to educational radio broadcasts (Uwezo Kenya, 2020). Similarly, 39% of students in Bangladesh can access the Sangsad educational television channel but only 17% of learners have watched televised lessons (Biswas et al, 2020).

A major impediment to student engagement may be a lack of high-quality content. Prior to the pandemic, approximately two-thirds of countries did not use digital education resources while only 10% of countries had digital resources available for learning outside of school (Patrinos & Shmis, 2020). Deploying distance learning has required governments to rapidly acquire more content of a higher quality. Going forward, programme designers must ensure students have access to content that fosters a desire to engage in learning and to return to school.

Lesson 6: The Schedule of Educational Programming Matters, Especially for Children from Low-Income Families

Educational programming must be broadcast at times that are appropriate for students — and the wider household — to ensure learning continuity. When scheduling broadcasts, programme designers should consider socioeconomic factors.

A recent World Bank survey in Ecuador found that most children allocate time to their studies in the morning (Asanov et al, 2020). While some learners may study at a later time, students from low-income families often need to spend their afternoons completing household chores (Asanov et al, 2020). These children may miss out on programming that is broadcast in the afternoon.

This finding could have significant ramifications in other low- and middle-income countries. In Uganda, 71% of children are required to complete housework during the day (BRAC, 2020). Likewise, 59% of students in Sierra Leone are responsible for chores now that they are out of school (BRAC, 2020). In Bangladesh, students are now spending twice as much time performing chores and paid labour than when schools were open (Asadullah, 2020).

The experience of students in Ecuador — and the potential ramifications in other countries — means that programme designers must carefully schedule broadcasts to ensure children from low-income households are not further disadvantaged.

Lesson 7: Parents and Caregivers Play an Important Role in Facilitating Home-Based Learning

The current discourse on home-based learning has primarily focused on children. What devices can children operate? How can learners use smartphones for independent study? These types of questions are undoubtedly important as children take on greater responsibility for their learning during school closures. However, these questions overlook the importance of parents and caregivers in leading and supporting household learning activities.

Since the onset of the COVID-19 pandemic, caregivers in low- and middle-income countries have played a key role in facilitating home-based education. In Mongolia, for example, a World Bank phone survey found that three-quarters of households with school-enrolled children pursued distance learning in the week prior to the study (World Bank & National Statistics Office of Mongolia, 2020). Notably, 74% of these households reported that children required a caregiver to support educational activities (World Bank & National Statistics Office of Mongolia, 2020). Even where students can access and use educational resources, parents and caregivers need to guide and scaffold the home-based learning experience.

Similarly, a greater number of children in Kenya have accessed educational resources from their parents than via the radio, WhatsApp or the national online learning repository (Uwezo Kenya, 2020). Meanwhile, low levels of literacy — and digital literacy — among caregivers have limited their capacity to support children with technology-based learning (Uwezo Kenya, 2020). In this context, policymakers should explore ways to enhance the capacity of caregivers to mediate learning rather than distributing content on devices that households cannot access or use.

Lesson 8: Teachers, Parents and Caregivers Require Additional Support to Facilitate Home-Based Learning

Governments and schools should increase contact with teachers to provide clarity on their expected role. Since schools closed, teachers have received mixed and changing messages that have exacerbated the uncertainty and anxiety associated with the pandemic (Bozkurt et al, 2020). In Vietnam, a phone survey found that more than half of teachers believe that they have received inadequate support from school leaders during COVID-19 (Hoang et al, 2020). Meanwhile, approximately three-quarters of respondents believe that they have received inadequate support from the Ministry of Education and Training (Hoang et al, 2020).

Even though parents and caregivers can facilitate home-based learning, they need direction and guidance. In Kenya, for instance, an Uwezo study found that 20% of parents did not know that their children should continue to study while schools are closed (Uwezo Kenya, 2020). This proportion rises to 80% in the remote county of Mandera (Uwezo Kenya, 2020). In particular, parents highlighted the need to raise awareness about distance learning at a community level (Uwezo Kenya, 2020). In response, initiatives such as the Keep Kenya Learning campaign aim to work with families to identify suitable approaches to supporting education in the home.

Education providers can use technology to communicate with parents and to coordinate home-based learning. In Botswana, Young 1ove sends caregivers a basic numeracy problem via text message to share with their children at the start of each week (Angrist et al, 2020). Afterwards, facilitators walk through the problem with both caregivers and students on speakerphone (Angrist et al, 2020). After four weeks, the intervention had already resulted in statistically significant learning gains in numeracy (Angrist et al, 2020).

Where do We go from Here?

The current pandemic has disrupted, and will continue to disrupt, the education and wellbeing of learners worldwide. At present, evidence suggests that a limited number of children in low- and middle-income countries have access to technology-based learning. Importantly, the most

marginalised children appear to have the least access to learning continuity. After the crisis, many learners may not immediately return to school, and those who do will have likely benefited from home-based learning interventions to varying degrees.

During school closures, a reliance on technology-supported education interventions could leave the poorest students behind and widen existing inequalities. At the same time, learning continuity is not dependent on technology. In Ghana, for example, almost 60% of respondents report that children are using their own school books to learn at home (Innovations for Poverty Action, 2020). In the short-term, caregivers and parents will likely play a significant role in facilitating home-based learning although they will need structured support. This does not mean that education providers cannot use technology to support teaching and learning in the future. Yet, decision-makers should explore medium- to long-term opportunities to use educational technology to build back better and to ensure we are better placed to respond to future crises.

The process of evidence collection is far from over and you can see Open Development & Education's evidence library for further updates.

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Appendix

The following table provides a breakdown of the studies considered in this paper.

Paper	Population	Intervention	Outcome
Stemming Learning Loss During the Pandemic: A Rapid Randomized Trial of a Low-Tech Intervention in Botswana (2020)	4,500 families with primary-school-age children in Botswana	A weekly text message with a maths problem followed up with a phone call	Learning gains of 0.29 standard deviations and increased parental engagement in learning
COVID-19, Schooling and Learning (2020)	5,193 Bangladeshi primary and secondary school students in rural areas and urban slums	Multimodal approach consisting of televised classes, online lessons and self-study materials	Low access to and engagement with technology-based learning initiatives as well as an 80% reduction in total study time
Remote-learning, Time-Use, and Mental Health of Ecuadorian High-School Students during the COVID-19 Quarantine (2020)	1,500 students aged 14 to 18 in Ecuador	Multimodal approach using multiple online platforms (e.g., government site, Zoom, YouTube) and educational television	Most students have access to learning continuity but few are using the government platform. Students from poorer households have less access to learning resources
TV-Based Learning in Bangladesh: Is it Reaching Students? (2020)	2,000 grade 9 students who receive poverty-targeted stipends in Bangladesh	Government television and online learning programmes	Half of students with access to educational television watch government programmes while only 2% of students with access to the internet use online resources to learn
Survey on Vietnamese teachers' perspectives during COVID-19 (2020)	294 teachers in Vietnam	Online learning programmes	Teachers feel that the shift to online learning has increased their workload yet they lack support from school leaders and the government
Ghana RECOVR Survey Analysis (2020)	1,633 household respondents in Ghana	Multimodal approach consisting of educational television, online resources and self-study materials	64% of primary-age learners and 57% of secondary-age learners are continuing to study although most students are using self-study materials rather than technology
Phone survey on the	1,023 household	Multimodal approach	30% of learners are

COVID crisis in Senegal (2020)	respondents in Senegal	consisting of educational television, radio, online resources and self-study materials	pursuing no learning activities with significant differences in access to technology-based interventions across household wealth
Listening to Young Lives at Work in Ethiopia (2020)	2,471 young people in Ethiopia who form part of the Oxford Young Lives programme	Government distance learning programme	Only 12% of children in rural areas are learning during; only 14% of children whose parents have no education participate in distance learning
A Survey on Impacts of COVID-19 Pandemic on Children and Young People and Their Needs (2020)	6,771 young people aged 15 to 19 in Thailand	Government distance learning programme	70% of young people feel stressed due to lockdown and the inability to continue their studies and see their peers as normal
Are Our Children Learning? The Status of Remote-learning among School-going Children in Kenya during the COVID-19 Crisis (2020)	Over 3,700 heads of households and school leaders in Kenya	Multimodal approach consisting of educational television, radio, online resources, materials sent over WhatsApp and email, and materials provided by parents	Only 22% of children are accessing digital learning resources with significant variation across regions and school type
Results of Mongolia COVID-19 Household Response Phone Survey (Round 1) (2020)	1,333 households in Mongolia	Multimodal approach consisting of educational television, radio and online learning	Approximately 75% of children have access to learning continuity with most preferring television; children in rural areas have less access to technology-supported education interventions