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CASE STUDY

Ghana's education response during the COVID-19 crisis: EdTech to the rescue?

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Version 1

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Contents

Acronyms

CENDLOS	Centre for National Distance Learning and Open Schooling
CSO	Civil Society Organisation
GES	Ghana Education Service
GLTV	Ghana Learning Television
GLRRP	Ghana Learning Radio and Reading Programme

Key messages

– COVID-19 disrupted teaching and learning for 9.2 million pre-tertiary children and 500,000 tertiary students across Ghana.

– In response to the crisis, education authorities in Ghana deployed remote and virtual learning platforms — Ghana Learning TV, the Ghana Learning Radio and Reading Programme and online iCampus and iBox to ensure continuous learning for school children.

– The effectiveness of the remote and online learning programmes depends on adequate infrastructure for electricity, television, radio and internet. Inequity in access to these basic learning infrastructures presents barriers to virtual learning for children from rural and low-income households.

– Low digital literacy among poor and low-income parents and guardians impedes children's access to online learning platforms. Children who use adults' phones are exposed to content that is not child-friendly, and also risk being exposed to online grooming, abuse and exploitation.

– Lack of commitment to television and radio teaching schedules and inexperienced facilitators affect children's participation and learning.

– There is not enough provision for learners with disabilities, and they remain marginalised in the delivery of remote learning platforms.

– There are two broad drivers that will shape the long-term future EdTech solution in Ghana: 1) demographic and socio-economic drivers, and 2) policy and institutional drivers.

1 Introduction

Children in Ghana (including 9.2 million pre-tertiary and 500,000 tertiary students) are among more than 1.5 billion learners globally whose studies have been impacted by school closures. The Ghanaian Government indefinitely closed public and private schools within days of the country recording its first COVID-19 case on 12th March 2020, ultimately including final-year high school students who were initially allowed to continue attending school. Schools were midway through the 2019/2020 academic year when the pandemic disrupted teaching and learning.

The closure of schools was followed by the deployment of teaching via television, radio and the internet, with varying degrees of uptake by children in urban and rural households, and learners living with disabilities. This case study uses a political economy framework to analyse the government's education technology strategy in times of crisis and the respective uptake by teachers and students, particularly marginalised groups. In addition to an extensive review of policy documents and media publications, 10 key informant interviews were carried out with educators, civil society actors, parents and public education officers.

2 How did education authorities respond to the closure of schools?

In response to the closure of schools, the Government of Ghana, through the Ministry of Education and the Ghana Education Service (GES), developed the COVID-19 Coordinated Education Response Plan (GES, 2020). Launched in April 2020, the plan outlined strategies to deploy remote and virtual learning in the short term (within three months) to the long-term, post COVID-19. Based on its assessment, the GES — the implementing agency for pre-tertiary education — identified three remote learning platforms for all grades: television, radio and internet. Complementary education programmes were rolled out for each of these platforms.

Launch of television and online solutions. The GES, Ministry of Education and Ghana Broadcasting Corporation launched and started airing a 24-hour free-to-air digital television channel called Ghana Learning Television (GLTV) on 14th April and 6th May 2020, respectively. It relied on existing infrastructure, such as the dormant Centre for National Distance Learning and Open Schooling (CENDLOS) that was set up in the 2000s, and tailored it to align with current content provided by the National Council for Curriculum Assessment for basic and senior high schools. GLTV is aired on paid-for television channels such as DSTV, StarTimes and GoTV. Lessons are delivered by selected professional teachers trained by the GES and Ghana Broadcasting Corporation in audio-visual lesson preparation and delivery. English is the medium of instruction and no translations are made for local languages. This effectively leaves out slow learners and pupils from low-performing schools who are only conversant in their mother tongue.

Launch of complementary radio programmes. Two months after the launch of GLTV, the Ghana Learning Radio and Reading Programme (GLRRP) was launched. Once on air, it adopted storytelling and play-based activities for improving reading, writing and imaginative skills among lower-primary learners. Targeting the regional radio networks of the Ghana Broadcasting Corporation and other local stations, each lesson is delivered for one hour, in examinable Ghanaian languages.

Free browsing on selected platforms. To facilitate access to online learning platforms, the Ministry of Communication, along with telecommunication providers MTN and Vodafone, agreed to a zero rating, allowing free access to over 200 websites of schools, universities and colleges (with a daily cap of 500MB). This reduced the cost of browsing for students and teachers.

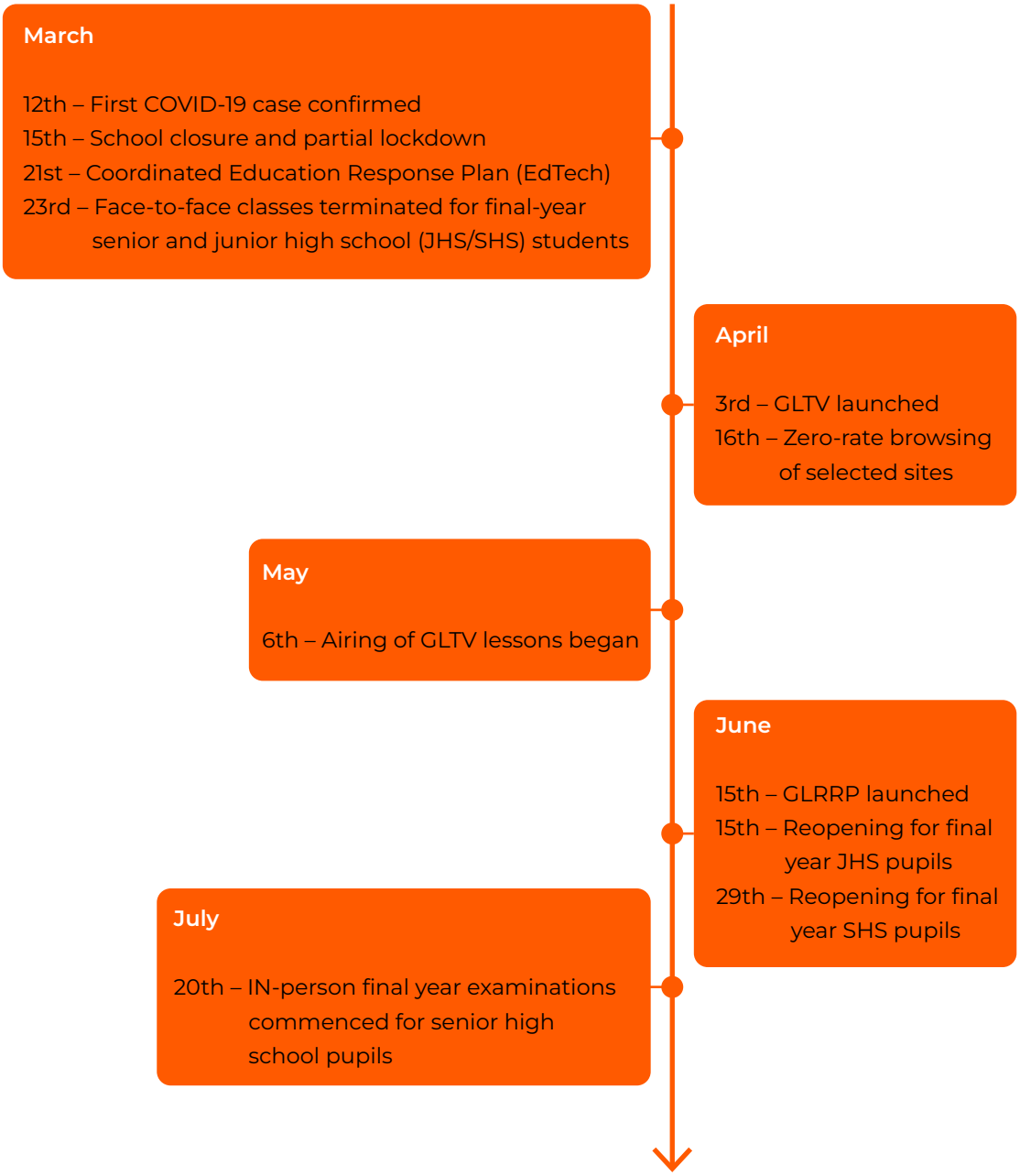

Figure 1
Timelines for Ghana's education response to COVID-19

Private sector involvement. Key stakeholders in the education sector, such as civil society organisations (CSOs), private education service providers, media houses and development partners initiated various online, digital, television and radio learning programmes to complement the efforts of the government. While UNICEF, Plan International, FHI 360 and USAID are directly supporting GLTV and GLRRP, others like Sabre Trust and private schools have developed separate remote learning programmes for online, television or local radio stations (see Table 1).

Remote learning interventions	Focus	Partners	Type
Television			
GLTV	Kindergarten to senior high school	Ministry of Education, GES, UNICEF, FHI360, USAID	Public
Joy Learning TV	All SHS subjects	Multimedia Group	Private
Class Act	All senior high school subjects	Citi TV	Private
Online education			
iBox	JHS	GES, CENDLOS	Public
iCampus	Compulsory subjects for SHS	GES, CENDLOS	Public
GhLApp (Ghana Library Reading App)	Digital library for all students	Ministry of Education, Ghana Library Authority, World Reader, World Vision	Public
Zero-rated online learning	Free access to over 200 educational websites	MTN and Vodafone	Public-Private
Radio education			
GLRRP	Reading for basic school pupils	Ministry of Education, GES, UNICEF, FHI360, USAID	Public
Sabre Home Learning Radio	Early childhood education for rural and peri-urban children	Sabre Education, Ghana Community Radio Network	Private

Table 1
Major virtual learning interventions in Ghana

3 Existing infrastructure to facilitate access to remote learning and EdTech programmes

The effectiveness of the remote and online learning programmes is dependent on adequate infrastructure for electricity, television, radio and internet. Household access to devices like computers, radio sets and mobile phones is also important. However, these are not evenly distributed across social and geographic strata.

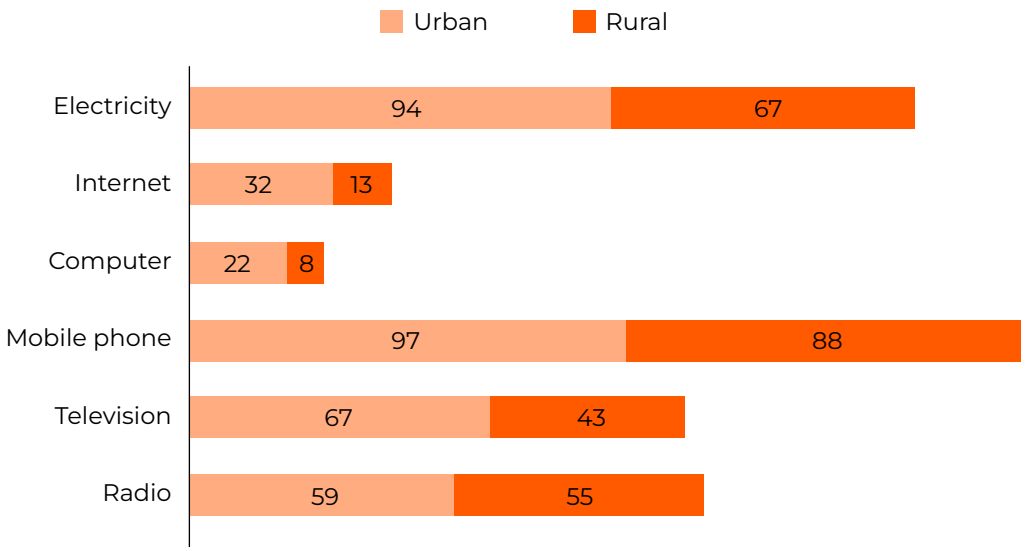

Figure 2
Percentages of urban and rural access to basic infrastructure. (Source: Ghana Statistical Service, 2019; UNICEF, 2019)

Low electricity, television, radio and internet coverage in Ghana. While electricity coverage is high in urban centres (94%), it reaches only 67% of households in rural areas (World Bank, 2020), leaving children in 33% of rural households without access to GLTV and online learning platforms. Television (60%) and radio (57%) coverage is even lower throughout the country, and much lower in rural areas (43% television, 55% radio) than urban areas (67% television, 59% radio). Poor and low-income households in urban areas also have limited access to television; even where they do have one, children have less access to programmes than adults. Data from the UNICEF Multiple Indicator Cluster Survey shows that at the national level only 45% and 30% of households in Ghana have access to the internet and a computer at home, respectively. In rural areas, this is down to 13% and 8% of households, respectively.

Inequity is heightened by low coverage. Such disparity presents barriers to virtual learning for children from rural and low-income households, as the media for accessing the private and public learning programmes are not accessible to them. Additionally, even though GLTV is the largest investment by the government to ensure continuous learning for children, it is only accessible on free-to-air digital television and on prepaid channels like DSTV and GoTV, which reach an even lower proportion of the learner population. Children in households with analogue television sets cannot access GLTV and are thus excluded from GLTV programmes.

Even though mobile phone ownership is significantly high in both urban (97%) and rural (88%) households, low digital literacy among poor and low-income parents and guardians impedes children's access. Children who use adults' phones (owned by elder siblings, parents and other family members) can be exposed to content that is not child-friendly and can risk exposure to online grooming, abuse and exploitation.

3.1 Users' appraisal of mode of delivery of remote and online learning

Lack of commitment to schedule affects participation. The GES and the Ghana Broadcasting Corporation developed a general schedule for lessons on GLTV and GLRRP. However, this was not followed. For example, morning sessions should be between 7am and 9:45am for junior high schools, followed by four hours of lessons for pre-school and primary schools (ending at 2pm). The evening sessions (until 7pm) are for junior high school students,[1] followed by repeat sessions for the rest of the night. However, some parents and children have lost interest, as they are unable to plan for relevant lessons:

> *'Sometimes, you expect to meet the lower primary sessions in the morning but when you put the TV on they are presenting lessons for senior high schools. This has made it difficult for children to follow lessons and participate effectively.' Parent, Kumasi, 2020*

> *'When my child started developing interest in the lessons because she wanted to discuss with her peers over the phone, the programme went off for about two weeks. She has completely lost interest now.' Parent, Cape Coast, 2020*

Inexperience of facilitators affects learning. GLTV and GLRRP are delivered by selected teachers trained at short notice by the GES and the Ghana Broadcasting Corporation after the schools were closed. Unfortunately, these teachers have not yet mastered the art of virtual delivery, which requires innovative participatory methods to engage the children. This affects the quality of teaching on the television channel.

> *'I have followed the GLTV for some time. What I noticed is that some teachers are struggling to teach the lesson. They are unable to effectively engage the children to maintain their focus and also make the lesson interesting for them.' CSO actor, Accra, 2020*

Private schools started early. Unlike public and low-fee private schools, elite private schools already used blended learning approaches (a combination of in-person and EdTech solutions to facilitate learning) prior to COVID-19. They share e-resources on either their own virtual platforms or existing ones such as Zoom, Google Classrooms, WhatsApp and YouTube for self-guided learning. These platforms also provide curated digital resources for teachers and parents/guardians on how to support learning.

> *'... my children's school uses Google Classroom and WhatsApp to teach... The school developed a virtual lesson schedule and teachers come to deliver live lessons. There is interaction between the teachers and students which makes it more exciting for the children. Assignments are given on the platform and also shared with parents via text on WhatsApp.' Parent, Kumasi, 2020*

1 This programme is only for basic schools (primary to junior high school). The senior high school students mainly use online platforms like ibox and icampus.

3.2 How inclusive is the government's EdTech solution?

Although the COVID-19 education response plan acknowledged the need for inclusive online learning in line with the 'leave no one behind' theme of the Sustainable Development Goals, findings from this study revealed that GLTV, GLRRP and the various online programmes exclude certain categories of children.

Children with disabilities are particularly excluded. About one in every five children between the ages of 2 and 17 years in Ghana have a form of disability or functional difficulty. Despite the available data, GLTV did not make any provision for children with learning disabilities until CSOs raised concerns and worked with the GES to include sign language interpretation of GLTV programmes for children with hearing impairments. But no support has been provided for children with visual impairments or other access needs. Moreover, GLTV lessons are taught in English, despite nine Ghanaian languages being well developed and taught in schools. This therefore excludes children with disabilities and learning difficulties that prevent them from learning a second language.

> *'These children were left out. My organisation raised concerns and together with other disability organisations (Ghana Blind Union, PERKINS and the Special Education Division of GES)... we are almost through with translating the lessons into braille for the visually impaired learners.' CSO actor, Accra, 2020*

> *'The lessons on GLTV are taught only in English, so children who are not able to read, understand and write English are unable to participate effectively. Some of these children therefore have lost interest in the programme and no longer follow the lessons on the TV.' Parent, Cape Coast, 2020*

Girls are further excluded due to increased household chores. With entire households spending more time than usual at home due to movement restrictions and fewer opportunities to work, unpaid domestic work such as childcare and cooking has increased. More water is needed from public sources for laundry and cooking at home than usual, young siblings require care while parents who can still work are away, and food must be prepared throughout the day. These household responsibilities are typically assigned to girls, and so girls spend less time than boys on digital platforms. Respondents suggested that there is an increase in domestic violence, in which girls are often the victims.

Children in households without access to television, technology and internet connectivity are being left behind. Their inability to continue learning will further deepen the learning crisis and contribute to their dropping out of school.

> *'The COVID-19 education response team forgot about children in areas where there is no electricity and internet.' CSO actor, 2020*

> *'Children in these communities do not know what is going on. They are completely cut-off from the GLTV and even the GLRRP lessons. These children will, however, write the same national exams with those in cities, can you imagine?' CSO actor, Accra, 2020*

4 How does evidence influence education policy decision-making?

The operational structure of Ghana's pre-tertiary education sector is decentralised, in that schools are managed by Metropolitan, Municipal and District Assemblies. However, general education policy-making is centralised, as these assemblies take directives from the Ministry of Education and the GES. Thus, decision-making is top-down: the Ministry of Education provides policy directives, while the GES, Metropolitan, Municipal and District Assemblies and the private sector implement policies. This has implications for the collection and use of data, including for the Education Management Information System, for decision-making. Manifesto documents without an evidence base appear to drive policies.

> *'Though district education directorates are responsible for collecting EMIS (Education Management Information System) data at the school level, they do not use it to inform decision-making. They only transmit it to the Ministry of Education where centralised education decisions are made.' CSO actor, 2020*

> *'One thing you must know is that political party manifestos have gained prominence in education policy making. Parties during electioneering campaigns make promises without using data; when they come to power, they then look for data (in some cases manipulate data) to support their proposed policy.' Education administrator, Ministry of Education, 2020*

The implementation of the free senior high school policy by the New Patriotic Party government and the mass construction of E-block schools (specially constructed E-shaped senior high school buildings) by the National Democratic Congress Government, which faced significant infrastructure deficits and zero enrolments, respectively, have often been cited as evidence of the disregard for data in policy-making. And the fact that GLTV launched more than a month before the GLRRP, even though fewer households have access to television than radio, further suggests the lack of use of data for policies and programmes.

5 Drivers and potential for innovative use of EdTech and virtual learning systems

The drivers of the use and deployment of information and communications technology, EdTech and remote learning are categorised into demographic and socio-economic drivers on the one hand, and policy and institutional drivers on the other.

5.1 Demographic and socio-economic drivers

Ghana has a young population, with over 60% of the population under the age of 25 years. As a result, the demand for places in educational institutions at all levels outstrips available spaces. Primary school drop-out rates are high, with close to 50% of basic school leavers unable to progress to senior high; while a high proportion of senior high school leavers fail to continue their education due to poor performance and limited spaces in tertiary institutions.

To address this gap in the education system, there is a call by education stakeholders for the government to invest in distance education and virtual learning infrastructure to expand access to quality education in both rural and urban areas. Private education providers are also developing various EdTech solutions and programmes to broaden access to education.

5.2 Policy and institutional drivers

Ghana currently has three broad policy documents that are relevant to EdTech.

The 2003 Ghana ICT for accelerated development (ICT4D) policy aims to deploy electronic distance education and virtual learning to increase access from primary to tertiary levels. The document, however, failed to outline investment strategies for filling the information and communications technology infrastructure gap. CENDLOS, established to support this policy, remains dormant and under-resourced, and its icampus and ibox virtual learning platforms have until recently been inactive due to limited and costly bandwidth.

The Ghana Education Sector Plan 2018–2030 is the current strategy guiding education management and delivery for the next decade. The plan seeks to transform Ghana into a 'learning nation' using improved technologies to facilitate equitable access to quality education. Yet, COVID-19 has exposed the inadequacies and lack of preparedness of the government to achieve this objective.

The Ghana COVID-19 Education Response Plan outlines some strategies for post COVID-19 recovery. First, it intends to establish accelerated education, remedial and catch-up programmes targeting children who were excluded from remote learning. While an education administrator at the GES insists that this 'plan will be co-designed and co-created by all stakeholders through broad consultations', CSOs and private educational providers argue that what the GES refers to as 'consultation' is often 'information' about policies already decided.

Second, it proposes investment in infrastructure to build a future-ready (resilient) education system that can address the vulnerabilities exposed by COVID-19. While the education ministry intends to leverage the existing infrastructure of the Ghana Library Board to collaborate with third-party content and digital infrastructure providers, it remains unclear how and when this will commence.

6 Conclusion and recommendations

Despite a quick national policy response to the closure of schools, systemic challenges exposed the inequity in gender, social inclusion and distribution of public goods and services in Ghana. To address these challenges, some immediate to long-term strategies must be deployed.

In the short-term, resource packs — learning materials, activity and guidance notes, and radio sets — must be procured and distributed to households in rural and urban-poor communities. The current GLTV and GLRRP programmes should not only contain COVID-19 sensitive information, they should also include child protection and gender equity messages to sensitise children and guardians about the effects of increased unpaid and gendered roles on the health and education of girls during the long home stay. CSOs should continue to monitor government responses and hold them to account.

In the long term, there must be conscious investment in using technology to improve infrastructure for remote and distance learning. The Ministry of Education must revive CENDLOS to develop guidelines for a blended approach to education delivery. The Education Management Information System data-collection systems must be reformed to enable digitisation and decentralisation and to allow timely and relevant data to inform decision-making at both local and national levels.

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