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CASE STUDY

Education technology in the COVID-19 response in Nigeria

Date   **November 2020**

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Acronyms

ICT   Information and Communications Technology

FMoE   Federal Ministry of Education

Key findings

The long duration of school closures caught Nigerian education stakeholders unprepared in many ways:

– Many federal policies recognise the application of technology in education delivery, but not for e-learning at basic education level.

– Although the government developed a three-scenario strategy for responding to school closures, which included distance education, its implementation did not consider the challenges of gender, special needs, location, infrastructure and economic status.

– The government formed partnerships with private and non-government organisations to provide some e-learning to teachers and secondary school students.

– The various distance education initiatives rely on technology, which depends on electricity supply and internet connectivity. The infrastructure to support e-learning is poor, with only 56% of Nigerians having access to electricity, and 42% to internet.

– Teachers' limited access to computers and the internet hampers their capacity to transition to digital learning.

– The distance learning platform requires parental support at home. The level of necessary support will depend on the technology through which the distance learning is conveyed, the parents' level of knowledge, the amount of time available, and their facilitation skills.

– The states and many private radio and television stations introduced a more curriculum-focused programming schedule when school closures became prolonged. States did not follow the federal scenario plan. Many states, such as Lagos and Ogun, adapted the interactive radio instruction and instructional television mode of teaching to complement private initiatives in the third week of closures. The governments of Edo and Lagos State introduced e-learning for basic education students (Esoedu 2020).

– Unfortunately, the prolonged school closures highlighted regional differences in the application of technology to learning. The transition from one scenario to the other depended on state resources and education plans.

1   Introduction

When the first COVID-19 case was reported in Lagos on 27th February 2020, the state government activated its public health emergency team and closed schools (Lagos Cable, 2020). As more cases were reported, the federal government set up a presidential task force led by the Nigeria Centre for Disease Control and issued a lockdown order (Mbah, 2020) on Lagos, Ogun and the Federal Capital Territory. On 19th March 2020 the Federal Ministry of Education ordered the immediate closure of all its 104 unity schools (FMoE, 2020) and directed the closure of all other schools (including private schools) before 23rd March. The Nigerian constitution provides the states and the federal government with similar powers for making laws regarding education. The National Council on Education, comprising 36 states, determines basic requirements and policies on education. The Federal Ministry of Education encourages states to comply with such policies through input into aspects of education. However, state governments are responsible for implementing policies in state schools. The Nigerian education system encompasses three levels: basic education (nine years), post-basic/senior secondary education (three years) and tertiary education (four to six years depending on the programme of study). Unity schools are secondary schools that the federal government established in each state to promote national unity through the interaction of students from various parts of the country.

2 The length of the school closures was not anticipated

The school closures affected about 40 million learners, 91% of whom are in primary and secondary schools (UNESCO, 2020). The long duration of the school closures was unprecedented, and no one anticipated the closures would disrupt the already fragile education system. Closures worsened existing challenges to basic education and learning with an estimated 10.5 million of the country's children aged 5–14 years not in school. Before the closures, schools were finishing up the second term. Some schools were about to begin end-of-term examinations, while other schools were already in the middle of examinations. A teacher whose school was in the middle of examinations summed up the general impression:

> *'The government sent a message to our school to shut down, the exams had commenced, but there was nothing we could do. We sent the pupils home. We thought that it would be like that of Ebola, when the holidays were extended by two weeks. We did not plan for this long lockdown.'*

3   The federal government response to the school closures

As public anxiety grew regarding the interruption to learning, the Federal Ministry of Education and its agency, the Universal Basic Education Commission, set up a Coordinated Response Task Team for a Learn at Home Programme. The team developed a plan to support distance learning under three possible scenarios (FMoE, 2020).

The first month of closures would be regarded as a standard-length school holiday. The government would raise awareness about the virus and share safety guidance by radio and television. Should the closures last for more than one month (but less than three), the response plan identified the need to provide audio-visual channels and to develop more sustainable strategies to support learning from home. Finally, should the closures last more than three months, the government would initiate a structured approach to encourage curriculum digitisation and develop instructional material for radio, television or self-learning. The Universal Basic Education Commission and other stakeholders would also develop a plan for continuing learning and adjusting examination schedules.

Many federal policies recognise the application of technology in education delivery, but not for e-learning at basic education level. A senior official of the Federal Ministry of Education confirmed that they were 'not aware of any policy or legislation supporting distance learning for basic education in Nigeria'.

The National Policy on Education (FMoE, 2013) and the National Information Communication Technology (ICT) Policy recommends the use of ICT skills as a tool for learning. Nigeria's 2015 Policy on Education for All prescribes the use of communication technology for open and distance learning and recommends the establishment of open and distance learning with a focus on higher education and teacher education (UNESCO, 2000). Although guidelines and policies encourage the acquisition of computer knowledge and skills for software development, internet and digital broadcasting (FMCT, 2012), they do not recommend its use in e-Learning. The 2019 National Policy on Information and Communication Technologies in Education, for example, only proposes e-learning for migrant communities and adult learners (FMoE, 2019). On the other hand, the 2019 National Implementation Guidelines for ICT in Education highlight the use of Open Educational Resources to improve access to ICT education, and to strengthen and expand open and distance learning.

When the school closures entered the second scenario (schools having been closed for longer than one month), the Nigeria Education In Emergency Working Group set activities in motion by focusing on distance education for learners and teachers in north-eastern Nigeria.

The Federal Ministry of Education's Learn at Home Programme provided access to two e-learning portals, schoolgate.ng and mobileclassroom.com.ng, which, in partnership with local mobile internet service providers, permits subscription-free access to primary and secondary school students.

State governments also scaled up learning via local television and radio, based on the secondary curriculum, and encouraged input from non-governmental organisations.

For example, the Ogun State government worked with Teach for Nigeria to deliver classes to pupils using television and radio and held webinar workshops for teachers. Some secondary schools independently initiated e-Learning using platforms such as Google Classrooms, Edmundo, IXL and WhatsApp. However, the impact on learning has not yet been evaluated.

The response sequence may be similar across states, but the emphasis and dates differ and, due to the federal system, state and federal authorities sometimes disagree on specifics, such as school re-opening dates.

Date	Response
28th January	Federal government sets up a coronavirus preparedness group
27th February	First case of coronavirus reported in Nigeria
7th March	Federal government establishes the Presidential Task Force on COVID-19
19th March	Federal Ministry of Education announces the closure of its schools with effect from 23rd March and advises states and private schools to do the same
20th March	Borno State government closes schools, establishes a state response team
23rd March	Many states formally close down schools
24th March	Joint Exams and Matriculation Board and National Examinations Council suspend examination dates
1st April	States adopt response strategies that best suit their circumstances
14th July	Centre for Disease Control issues guidelines for school re-opening
30th July	Federal government and Oyo State disagree on school re-opening dates
3rd August	Lagos, Oyo, Ondo, Ogun, Ekiti and Osun States re-open schools for transition classes (Primary 6, JSS3, SS3) in disagreement with federal government
4th August	Federal government and other state schools re-open for exit classes (Primary 6, JSS3, SS3)
14th August	Examinations held for graduating class P6, JSS3, SS3 only

4 State governments introduce remote learning

The states and many private radio and television stations introduced a more curriculum-focused programming schedule when the school closures became prolonged. States did not follow the federal scenario plan. Many states, such as Lagos and Ogun, adapted the interactive radio instruction and instructional television mode of teaching (FMoE, 2013) to complement private initiatives in the third week of closures. Unfortunately, the prolonged school closures highlighted regional differences in the application of technology for learning. The transition from one scenario to the other depended on state resources and education plans. For example, while states in the south-west deployed radio and television to reach rural students (Rufai, 2020), the Bauchi State Universal Education Board partnered with USAID and UNICEF to develop an e-learning programme for pupils in Koranic, primary and secondary schools. Children living in the north-east adopted UNICEF's e-learning initiatives. Kwara and Lagos States deployed local media channels, particularly the radio, to reach learners in remote communities. Lagos State commenced a smart teaching workforce (This Day, 2020), which is essentially online training for its post-primary teachers on e-learning. The government collaborated with some ICT firms to upgrade school websites for e-learning.

Many unity schools, such as Ijanikin, Queens College and Kings College continued learning using online facilities. Parents complained of the cost of internet access and providing electricity for the period.

UNESCO also made the educational contents of its School Meets the Learner Approach freely available on many platforms, including radio, television and YouTube. The lessons aligned with Nigeria's formal and non-formal curriculum for basic literacy. Meanwhile, state governments included early child development education, which was initially omitted from the radio and television programmes. A Federal Ministry of Education official stated that: 'State television and radio education programmes did not consider children below 5 years, but we have corrected that. Early child development education stakeholders had a webinar to develop radio and television programmes for "learning from the environment" for UBEC (Universal Basic Education Commission) distribution to states.'

5 Non-state actors respond to the prolonged school closures

As the school closures entered the third scenario, non-government, non-profit and for-profit organisations and private educational institutions introduced various forms of e-learning and computer-based internet education. One parent said: 'Some private schools have their online platforms and can conduct virtual learning classes daily from 8am to 2pm'.

In partnership with some state governments, Teach-for-Nigeria commenced a programme of infrastructure development to facilitate virtual learning. In Ogun State, Teach for Nigeria held e-learning capacity-building workshops for teachers. Other organisations, such as teachers' unions, trained their members via webinars on how to use e-resources for teaching. However, parents with children in early grades expressed disappointment that none of the programmes included their children. They organised groups to launch a private e-learning programme for early grades.

'It is worse for parents with children in junior secondary school. We did not receive any advice on how our children can continue learning during school closures. We are taking personal initiative'. (A parent)

6 The private sector seized the initiative and rapidly occupied the Ed-Tech gap

Skool Media introduced a Telegram learning platform for unity schools, the primary function of which is to pass information to students. Some private and low-cost learning platforms, such as ULesson, were mounted on handheld devices that focused on junior secondary science subjects. The three-day virtual bootcamp, supported by UNICEF, is a popular learning platform among teenagers in suburban Borno and Lagos State communities. While virtual classrooms with multimedia capabilities such as Edmodo were broad-based in content, Gopius learning management system and Easyprep focused on the primary school curriculum. Platforms such as Tuteria, Proteach and Prepclass emerged, connecting learners with subject specialists for one-on-one tutoring. The First Bank of Nigeria backed Roducate and provided an online and offline platform for hosting basic education.

7   There are many hurdles to e-learning

Poor infrastructure is a significant obstacle

The various distance education initiatives rely on technology, which depends on electricity supply and internet connectivity. The infrastructure to support e-learning is poor, with only 56% of Nigerians having access to electricity, and 42% having internet access. In addition, 88.4% of Nigerians have a radio, and 46.1% have a television. Although 83% of Nigerians have mobile phone connections, access is skewed towards middle- and upper-class households, the majority of whom have children in private schools. Digital devices may not be available, and where they are, these cannot be shared easily. Once the infrastructure is in place it will be left to be seen how it influences learning. A Lagos State government official remarked that:

> *'To bypass the challenge of poor electricity, we plan to convert TV and radio programmes to movable files that can be made available on social media platforms where they can be downloaded in the absence of electricity'.*

Pupils from under-served, low-income communities may be left out

Access to resources is a challenge for impoverished students seeking access to technology-driven education outside of school. Despite its enormous resources, Nigeria is rated as one of the world's poorest countries, with more than half of its population living in extreme poverty, according to the World Bank benchmark. Disparities in distance learning are particularly evident in low-income groups due to a lack of access to computers or internet facilities. Under these conditions, parents and guardians must prioritise internet subscriptions or buying a television, radio or computer, which will likely be considered non-essential luxuries. Schools with students from high-income families transitioned to e-learning effortlessly by deploying technology to ensure learning continuity. Schools that serve more impoverished rural communities must wait for government support, leaving students without access to learning and struggling to keep up with their peers.

Girls are particularly affected by school closures

Girls take on a disproportionately higher burden of domestic housework than boys, and so finding the time to learn at home may be difficult (Equality Now 2020). In rural areas and poor urban areas, boys and girls engage in income-generating activities such as farming, hawking and artisanry and may not have time to study (Obiezu 2020).

> *'There are no specific plans to reach the girl-child. The proportion of girls that attend school is lower than boys in the northern part, while the ratio of boys that attend school in the southern region is lower than that of girls. It is an ironic situation, but too often, the focus is on the girl'. (Senior Official UBEC, 2020)*

Girls are also more vulnerable to gender-based violence, which has increased during the prolonged school closures. The extended quarantine and restrictions have forced vulnerable people to stay within the proximity of their attackers. Schools can monitor and contain violations, and so are generally safe places for girls and vulnerable boys. In response to public anger, the Nigerian Forum of Governors declared a state of emergency on gender-based violence.

Nigeria has one of the highest rates of child marriage in the world and out-of-school girls run the risk of being given away in arranged marriages, especially in northern Nigeria where child marriage is considered acceptable under Islamic law.

E-learning excluded learners with disabilities

The National Population Commission estimates that there are 19 million people with disabilities in Nigeria. Other than providing perfunctory support to people with physical impairments, other disabilities are largely overlooked (EduCeleb 2020). The 2015 National Policy on Special Needs Education recommends the application of technology in the education of people with special needs, but its application to distance learning was not mentioned (FMoE 2015).The National Policy on Inclusive Education (2017) acknowledges the importance of technology in the delivery of basic education to children with disabilities. The nature and extent of the disability must align with the type of technology that is being deployed for distance education. Only a few e-learning platforms are technically accessible to blind learners, and even fewer provide sign language interpreters for the hearing impaired. The instructors used for most e-learning programmes are not disability-sensitive and the materials do not consider the needs of learners.

> *'The available e-learning programmes in Lagos State are not designed with children with disabilities in mind, but there are some groups helping to resolve the issue'. (Special needs pupil facilitator, June 2020)*

Public school teachers must become e-literate

Teachers also struggled with the transition to online learning facilitation (Obiakkor et al., 2020). Teachers' limited access to computers and the internet hampers their capacity to transition to digital learning. According to a Federal Ministry of Education official, 'more than 70% of public-school teachers are digital illiterates and may not be able to afford laptops'. However, the registrar of the Teachers Registration Council of Nigeria mentioned a plan to launch a 'one teacher, one laptop' programme that would improve the situation. Equipping and supporting public school teachers to adopt e-learning has never been so urgent.

Challenging as these may seem, the opportunities for a creative solution to problem-solving could not be better.

Parents will have the challenge of supporting their children at home

The distance learning platform requires parental support at home. The level of necessary support will depend on the technology through which the distance learning is conveyed, the parents' level of knowledge, the amount of time available, and their facilitation skills. While internet-based learning requires parents to be highly skilled and involved, radio and television carry much lower expectations. A parent articulated the concern that parents have with technology-supported learning:

> *'Many parents will have the challenge of supporting their children; access to internet requires buying data, electricity, and a lot more'.*

The federal government provided a broad policy direction and guidelines, such as the three-scenario plan, but the state authorities implemented aspects of the guidelines that fit their particular situation, or which were supported with federal funds.

8 Finally, a wake-up call

The findings indicate inadequate policy preparation to support continued basic education and e-learning during a period of prolonged school closures. Although there were policies in place, they did not drive the practice. The steps that the government took to resolve the situation further expanded the disparity in access, with vulnerable groups at the bottom of the pile.

Nigeria must urgently deploy technology to fast-track efforts towards achieving basic education. To close the learning gap in the short term, state governments must deploy low-cost technology such as solar-powered laptops, subsidize internet access, and provide teachers with training on digital literacy. The Federal Ministry of Education must review its policies and practices to accommodate technology-driven basic education delivery. Federal and state governments should document lessons from the COVID-19 experience and use the experience to plan for better coordinated and seamless learning continuity in times of crisis. Besides exposing the failings in Nigeria's education system, the school closures have also provided opportunities for investing in the local production of low-cost educational devices like tablets and computers, and establishing regional educational radio and television stations. The government must use these opportunities to improve basic education for all, now and into the future.

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