

COVID-19 and Global Lockdown: Impacts on Nigeria's Inertia for Transition to Online Educational Delivery System

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Abstract. The preparedness of a nation to respond to emerging needs or situations is an index of national growth globally. In this review, the response of Nigeria, a major West African nation, to emerging need for a shift in the method of educational delivery is examined. COVID-19 is the codename for a pandemic caused by the corona virus which resulted in global socio-economic hardship following the lockdown measures adopted worldwide to curtail the spread of the virus and its associated mortality. Global economic, social, educational and religious activities suffered various degrees of setback. Educational delivery worldwide has to depend largely on an online mode in the face of lockdown and this is challenging for most developing countries, including Nigeria. Inadequate preparation of Nigeria for emerging needs in several facets of development such as electricity supply, funding of educational institutions, and poor coverage of internet provision, poverty and ignorance spanning both population and government representatives made adequate shift from traditional classroom teaching to online delivery of quality education unsatisfactory. It is recommended that Nigeria accept this challenge as an opportunity to prepare the nation for advancement in educational system to meet up with international best practices within the next five years.

Keywords: Global lockdown, Educational delivery system, COVID-19, Nigeria, Traditional classroom

Introduction

The impact of the long term effects of COVID-19 on the existing educational system in Nigeria cannot be overemphasized. COVID 19 pandemic has affected educational systems all over the world, leading to the closure of all tiers of the educational system. It was reported that as of 21st of April 2020, approximately 1.723 billion learners have been affected globally due to the closure of schools in response to the pandemic. It was further reported that, 191 countries all around the world have employed nationwide closure of schools and 5 have employed local closure of schools, affecting about 98.4 percent of student population all over the world (Viner et al., 2020). The closure of schools affected not only the students, teachers, parents and guardian, but has extensively economic and community consequences. The Government's closure of schools in response to the coronavirus pandemic have resulted in social and economic issues, which include stoppage of student learning, food insecurity and homelessness, as well as access to childcare, health care, housing, internet, and disability services (Anderson et al., 2020; Van Lancker & Parolin, 2020).

Countries around the world have implemented strategies to control the spread of the virus. For instance, China on 26th of January 2020 set up measures to combat the COVID-19 pandemic. They closed down Universities and schools around the country extending the Spring

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Festival holiday to control the outbreak (Lin et al., 2020). Also, on 23rd of February, 2020 the Ministry of Health in Iran announced the shutdown of secondary schools, universities, and colleges in several cities and provinces. UNESCO released the first global numbers on school closures and affected students on 3rd of March 2020 (UNESCO, 2020). It was reported that 13 countries had ratified safety procedures which include the temporary closure of secondary schools, universities, and colleges, impacting 290.5 million students globally (UNESCO, 2020). In its response, UNESCO called on countries of the world to facilitate large-scale inclusive distance learning programs and support affected families and students (UNESCO, 2020). The Italian government on 4th of March, 2020 ordered the full closure of all schools, colleges, and universities nationwide when Italy recorded 100 deaths. By doing so, Italy became one of 22 countries on three continents in the world that had announced or implemented the closures of schools. On the 5th of March, 2020, majorities of students affected by Coronavirus crisis measures were found in China, with 233 million students and learners affected and closely followed by Japan at 16.5 million and then Iran at 14.5 million (Dowd et al., 2020).

One in five students worldwide was “staying away from school due to the COVID-19 crisis” as of 10th of March, 2020, while another one in four was excluded from higher education institutions. On 13th of March, 2020, governments in 49 countries around the world declared or executed the closure of schools, which included 22 countries with localized school closure and 39 countries that closed schools nationwide (Viner et al., 2020). According to UNESCO, by 16th of March 2020, this figure increased from 49 to 73 countries and as of 17th of March, 2020, roughly half of the world’s student population; over 850 million children and youth — had to stay away from schools and universities due to the Coronavirus pandemic. In 102 countries of the world, nationwide closures are in force and local shut-downs in 11 others. These statistics represent more than a doubling in the number of students prevented from attending schools, with further increases expected. Over 70 percent of the world’s learners were impacted by closure as of 20th of March, with 124 country-wide school closure (Viner et al., 2020). On 23rd of March, 2020, all schools and institutions in Nigerian were found to have been closed down by the Nigerian government.

Origin of Coronavirus

According to a report published in the journal Nature Medicine, the novel SARS-CoV-2 coronavirus that emerged in the city of Wuhan, China, in 2019 and has since caused a large scale COVID-19 pandemic and spread to over 213 other countries is the consequence of natural evolution (Scripps Research Institute). The city of Wuhan where it was reported that Coronavirus originated is the capital city of Hubei district in the People's Republic of China; the largest city in Hubei and the most populous city in Central China with a population of over 11 million, and one of the nine National Central Cities of China the ninth most populous Chinese city (Scripps Research Institute and Andersen et al., 2020). However, the analysis of public genome sequence data from SARS-CoV-2 and related viruses found no proof that COVID-19 was made in a laboratory or otherwise engineered. Kristian Andersen, Ph.D., an associate professor of immunology and microbiology at Scripps Research and corresponding author on the paper said that "By comparing the available genome sequence data for known coronavirus strains, we can firmly determine that SARS-CoV-2 originated through natural processes (Scripps Research Institute). According to findings, COVID-19 is a virus that can cause infections ranging widely in severity. The first known severe illness caused by a coronavirus surfaced in the year 2003 known as the Severe Acute Respiratory Syndrome (SARS) pandemic in China. A second outbreak of severe illness started in 2012 in Saudi Arabia called the Middle East Respiratory Syndrome (MERS).

Chinese authorities alerted the World Health Organization of an epidemic of a novel strain of coronavirus causing severe illness on 31st of December, 2019, which was subsequently named SARS-CoV-2. As of 20th of February, 2020, nearly 167,500 Coronavirus cases have been recorded, although many more mild cases have likely gone undetected. The virus had since infected 6,009,121 people worldwide, and the number of deaths had totaled 366,039. Immediately after the pandemic began, Chinese scientists determined the genome of SARS-CoV-2 and avail the data to researchers all over the world. The resulting genomic sequence data has revealed that Chinese scientist rapidly detected the pandemic and that the number of Coronavirus cases has been on the increase because of human-human transmission after a single introduction into the human race. Andersen and associates at several other research institutes used this sequencing data to explore the genesis and evolution of SARS-CoV-2 by studying several tell-tale features of the virus. The findings of the scientists analyzed the genetic template for spike proteins, armatures on the outside of the virus that it uses to grip and penetrate the outer walls of human and animal systems. More specifically, their study focused on two significant features of the spike protein: the receptor-binding domain (RBD), a kind of grappling hook that grips onto host systems, and the cleavage site, a molecular can open that enables the virus to break open and enter host cells.

Coronavirus Pandemic in Nigeria

The confirmed case of the pandemic of COVID 19 disease in Nigeria was first announced on 27th of February 2020, when an Italian man tested positive for the virus in Lagos, caused by SARS-CoV-2. However, on the 9th of March 2020, a second case of the virus was confirmed in Ogun State, by a Nigerian citizen who had contact with the Italian citizen. The Federal government of Nigeria on 28th of January 2020, assured citizens of the country of its readiness to strengthen surveillance at five international airports in the country to tackle the spread of COVID 19. The government announced the closure of airports as Enugu, Lagos, Rivers, Kano, and the FCT airports were shut down. The same day, the Nigeria Centre for Disease Control also announced that they had already set up a coronavirus group and was ready to set in motion its incident system if any emergency in Nigeria.

On 31st of January 2020, following the incidents of the Coronavirus epidemic in China and other countries globally, the federal government of Nigeria set up a Coronavirus Preparedness Group to lessen the effect of the COVID-19 if it eventually spreads to the country. That very day, Nigeria was listed among other 13 African countries by the World Health Organization identified as high-risk for the spread of the virus. On 26th of February 2020, a Chinese national presented himself to the Lagos State government on suspicion of being infected with COVID-19. He was admitted at Reddington Hospital Lagos and was released the following day after testing negative. Efforts to curb the spread of COVID-19 through non-pharmaceutical interventions and preventive procedures like social-distancing and self-isolation have prompted the widespread closure of primary, secondary, and tertiary schools in over 100 countries including Nigeria.

Timeline of COVID-19 Pandemic on Education around the World

In a report, UNESCO on 3rd of March 2020 released the first global numbers on school closures and students that were affected. It has been reported that 13 countries had implemented precautionary measures which include the temporary closure of schools and universities, impacting 290.5 million students around globally. In a reaction, UNESCO called on countries to support affected students and families and aid large-scale inclusive distance learning programme. The Italian government on 4th of March ordered the strict closure of all schools and universities nationwide as the death toll in that country has reached 100 deaths. In doing so, Italy became one of 22 countries in the world that had announced or implemented school

closure. As of 5th of March 2020, many of the learners affected by COVID-19 emergency measures were located in China, with 233 million learners affected, and followed by Japan at 16.5 million and Iran at 14.5 million.

By 10th of March 2020, one in five students all over the world was "staying away from school due to the Coronavirus crisis" while another one in four was barred from higher education institutions. On 13th of March 2020, governments in 49 countries announced or implemented stay at home for every learner, which included 39 countries which closed schools nationwide and 22 countries with localized school closure. By 19th of March 2020, 50% of learners all over the world were affected by school closure, corresponding to nationwide closures in 102 countries and local closure in 11 countries affecting 850 million children and youth. By 20th of March 2020, over 70% of the world's students were affected by closures, with 124 country-wide schools closure. On 23rd of March 2020 Nigerian government closed down all Nigerian schools, higher institutions, markets as well as companies were closed down and children were forbidden by parents to step out of their homes.

On 26th of March, all schools and universities in New Zealand have been closed down across the country. The government has enforced a two-week holiday, allowing schools to transition to forms of distant teaching as soon as possible. Universities have closed for one week but later resumed online teaching. Other school services remain open, but teaching is restricted to distant learning. As of 27th of March, nearly 90 percent of the world's learner population was affected. Regions with schools remaining open included Taiwan, Singapore, Australia, Sweden, and some U.S. states. By 29th of March, more than 1.5 billion school children were affected by nationwide school closure. Others were disrupted by localized closure. Until 6th of April 2020, there was an extension of holidays in all secondary schools of Turkmenistan. An order signed by the Ministry of Education as a preventative measure aims to curb the spread of respiratory diseases in connection with the WHO COVID-19 pandemic.

Impact of School Closure on COVID-19 Pandemic

National politics determines the worth of education policies, programs, and processes, and ultimately the results or outcomes. Underfunding and commoditization of education by the Government is likely to worsen the crisis in education during the COVID-19 era. The apparent economic crisis caused as a result of the impact of COVID-19 confronting many governments is creating severe conflicts in the educational sector of many nations. All around the world, previous pandemic of contagious diseases have prompted widespread school closure, with varying levels of efficiency (Cauchemez et al., 2009). Mathematical modeling has shown that transmission of an outbreak may be delayed by closing schools. However, the efficiency of this system depends on the contacts children maintain outside of schools (Jackson et al., 2013). The closure of schools may be effective when implemented promptly. However, if the closure of schools occur late relative to an outbreak, they are less effective and may not have any impact at all (Jackson et al., 2013). Besides, in some cases, the reopening of schools after a period of closure has led to increased disease rates (Jackson et al., 2013). As the closure occurs concurrently with other interventions such as a ban on public gathering, it can be a little complicated to evaluate the specific impact of school closure.

When the influenza epidemic hit the United States in 1918-1919, the closure of schools and public gathering bans were linked with lower total mortality rates. Cities around the world that implemented such interventions in advance had greater delays in reaching high mortality rates. According to a study, schools closed for duration of 4 weeks of 43 in the US in response to the Spanish Flu. Also, the closure of schools were said to reduce morbidity from the Asian flu by 90% during the 1957–58 outbreak, and up to 50% in managing influenza in the US, 2004–2008. Other findings show that many other countries successfully reduced the rate of spread of infection through school closure during the 2009 H1N1 Flu pandemic. The closure

of schools in the city of Oita, Japan, was found to have successfully reduced the number of infected students at the climax of infection; however, closing schools was not found to have significantly reduced the total number of students infected. Compulsory school closure and other social distancing measures were associated with a 29% to 37% decrease in the rates of influenza transmission. Also, early school closure in the United States delayed the climax of the 2009 H1N1 Flu pandemic. Despite the overall achievements of closing schools; a study of the closure of school in Michigan found that "district-level reactive school closure was ineffective.

In an article titled "Closure of schools during an influenza pandemic" published in *The Lancet Infectious Diseases*, it was reported that during the swine flu outbreak in 2009 in the United Kingdom, a group of epidemiologists supported the closure of schools to interrupt the course of the infection, reduced further transmission and buy time to research and produce a vaccine. Having studied previous influenza and pandemics including the 1918 flu pandemic, the influenza pandemic of 1957 and the 1968 flu pandemic, they reported on the economic and workforce effect school closure would have, particularly with a large percentage of doctors and nurses being women, of half had children under the age of 16.

Online Delivery of Lectures in Some African Universities

Increasingly, some universities are partnering with internet providers and governments to overcome this critical challenge by negotiating zero rated access to specific educational and information websites as in the case of Rwanda, South Africa, and Tunisia. At the institutional level, some universities, such as the public University of KwaZulu-Natal in South Africa and private universities such as Ashesi University in Ghana are offering data bundles to their student and staff. Generally, universities across Africa are setting up institution- wide task forces to mitigate the impact of the pandemic. Some striving to participate in high end research towards findings a cure for the virus. Many are attempting to shift to online teaching and learning through institutional, national, continental and international initiatives. Most plans are only at their initial stages of implementation and call for ramping up current forging wider cooperation and sharing experiences and resources across the whole continent. The major issues that holds serious implications in the fight against the pandemic in the educational set up is online teaching, which is now championed as an alternative form of educational delivery (Cuellar, 2002). Now, the question is will this online teaching ever work in Nigeria and for Nigerians?

The Effect of Online Delivery on Educational System in Nigeria

Nigeria as a nation has not been spared of the incidence of COVID-19 disease within her borders. As a consequence the Nigerian government has taken measures to curtail its spread as has been directed by the WHO and implemented around the world (UNESCO, 2020). In addition to the implementation of social distancing guidelines, regular hand washing cum use of hand sanitizer among other measures, major educational institutions including primary, secondary and tertiary schools were locked down on the 23rd of March 2020 (Viner et al., 2020; Van Lancker & Parolin, 2020) Prior to the lockdown, national educational system largely depended on the traditional classroom teaching method to date (Oluniyi, 2012). However, Nigeria is a developing nation cannot afford a long halt in education delivery to her teeming youth population and an alternative system has to be adopted in the face of lockdown measures against the COVID 19 pandemic. A paradigm shift in the delivery of education in Nigeria has been long overdue but much has not been seemingly done about it. Most institution worldwide has shifted from traditional classroom teaching to embrace online education (Cuellar, 2002). Presently, most public and private institutions offering online courses are under pressure to meet the demands of student requesting online courses (Cuellar, 2002) However, a step into

online courses without informed preparation would lead to a disappointing outcome for both students and institutions. In reality, the conversation of a successful classroom course to an online course is a decision that is never simple (Cuellar, 2002).

Several decisions need to be taken including how an already classroom-developed teaching content will change for online materials, how tutorials and multimedia will enhance the online teaching and how feedback from the students with regards to the workload and activities as well as the technological evaluation of the platform and hyperlinks will be analyzed (Cuellar, 2002; Oluniyi, 2012).

Digital Technology is key to the delivery of online teaching which include the provision of a strong, stable internet connection, input devices such as touch screens, electronic whiteboards, scanners, digital cameras, graphic tablets, microphone, electronic pointers, electronic pen and more, software to take classes online either for a recorded teaching or live stream, interactive teaching. YouTube and WhatsApp have been commonly used for recorded teaching while Skype, Zoom and Wiz-IQ with screen sharing options are popularly used for live streaming, interactive teachings. Students at the receiving end of online teachings need to possess internet connectivity, electronic tablets and cell phones, desktops or laptops as capturing devices. At the backdrop of all these requirements is a stable, reliable electricity supply.

Online teaching will not be that simple and effective in a country where 92.3 million which represent 47.1% uses internet (Clement, 2019) with poor connectivity; very high data cost and unstable or epileptic power supply are serious challenges. The electricity supply status in Nigeria is such that 40% of the population is connected to the national grid and power supply difficulties experienced 60% of the time (Clement, 2019; Aliyu et al., 2013) The best average supply of electricity in Nigeria is estimated at 4hours daily and power cuts or restoration are usually unannounced (Aliyu et al., 2013; Oluwadamilare et al., 2020) Power supply difficulties impede economic growth by crippling agricultural, industrial, mining and other sectors of which the COVID-19 challenges have now laid bare its impedance to a national, timely and effective shift from classroom teaching to online teaching across the country's institutions during lockdown (Oluwadamilare et al., 2020).

Effectively online classes requires substantial coordination with reliable support from, institutional and national service providers, regional entities, international partners, NGOs, the private sector and ICT providers to rally behind such tools and platforms at little or no cost. However, whether this coordinated actions could be put in place in response to the current lockdown challenge in Nigeria, is a question with an obvious answer. As an emergent need, the apparatus for transition from classroom to online education need to have been in place and proven for an effective response in the area of online teaching. The unwillingness of the national government is exemplified in her lack of provision of reliable electricity supply, uncoordinated regulation of the quality of internet service provision, inadequate funding of public institutions and finally, overt ignorance of the leaders of the country about this important need. All these anomalies prescribe that provision of online education in institutions across the country during a situation such as the current pandemic and the consequential lockdown is not feasible (UNESCO; Dowd et al., 2020; Oluniyi, 2012). In addition, the national population of internet users, smart phone users and PC users showed that the receivers of online teachings are also ill-prepared (UNESCO, 2020; Dowd et al., 2020; Clement, 2019). This, however, bothers on the ignorance and affordability of these essential tools for comfortable reception of online education.

Conclusion and Future Perspectives

This written report based on findings on the response of Nigeria's educational system to a global lockdown situation due to COVID-19 shows that there are both immediate and long

term effects on the educational system in Nigeria. In the immediate period, the national educational system failed to meet the requirement for a shift from its traditional classroom mode of teaching to a more civilized and modern online mode of teaching, due to factors attributable to non-preparedness spanning over 50 years post-independence. This is disappointing for a nation with vast human and natural resources above every nation in the African continent. Given this obvious failure of the Nigerian government in the area of up to date education provision that meets with global advancement to her citizens, the government must take the full advantage of the current challenge in the long term by making and implementing water-tight policies to resolve electricity provision, regulate the quality and affordability of internet services provided by the different providers across the nation and to increase the budget on education.

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