
THE CHALLENGES IN ADOPTING FUNCTIONAL ONLINE EDUCATION IN NIGERIA RURAL SECONDARY SCHOOLS DURING THE COVID-19 SCHOOL CLOSURE

OMOSOHWOFA FELIX AREDIA

*Department of Computer Science,
Umar Ibn Ibrahim El-Kanemi College of Education Science and Technology,
Pmb 16, Bama, Borno State, Nigeria*

Abstract

The lockdown during the corona virus pandemic, the enduring ban on large public gatherings meant schools have remained shuttered given the obvious risk of students becoming vectors for spreading the virus. Like many other schools around the world, secondary schools in Nigeria faced some challenges of making no income despite mounting overheads, including rents and salaries of workers as in the case of private schools and how to educationally engage Nigeria youths out of idleness during the COVID-19 pandemic. The solution was to digitize the entire syllabus, converting the lessons into audios and videos that students could access online. Prior to this, secondary schools in Nigeria have to adopt online education. This sudden migration came with shock and many challenges, and so it doesn't go down well especially with secondary school students in the remote places. This paper explains the benefits of online education, the role of government/corporate organizations in supporting online education, and challenges in adopting online education during the COVID-19 school closure as well as way forward to apprehend such challenges in future occurrence.

Keywords: Online Education, Rural Secondary Schools, COVID-19 Pandemic, Challenges and Benefits

Introduction

In the tension of the COVID-19 pandemic, schools all over the world were closed. Nigeria was not left out. Following the Federal government efforts to contain the spread of the Wuhan virus, the Federal Ministry of Education on March 19th, 2020 after the first COVID-19 patient was discovered in Nigeria on February 27, 2020 declared all schools in Nigeria to be officially shutdown, hence from March 23rd, 2020. Although, schools began partially re-opening two months later in May, far-reaching restrictions remain in place, and any prediction as to when closures will end completely seems to be hardly possible at then. The extensive school closures occurred during an era that has been shaped by rapid transformation in technological innovations and digitalization, not least in educational contexts (Selwyn 2012). However, 'digitalization in schools' has become a prominent issue, independently of and before the COVID-19 pandemic. In respect to as expected information and communication technologies (ICT) transformation progress, many schools all over the world still lag behind (Fraillon et al. 2019). On this context, teachers have to face significant challenges in adopting online teaching, and maintaining at least a minimum of communication with students and support students' learning. Consequently, the extent to which teachers have successfully mastered these challenges and which factors are most relevant still remain unknown. Therefore, not only does the question arise as to whether Nigeria rural secondary school teachers and students have all what it takes for online teaching and learning, but the question of how digital competence to master the challenges of the situation also comes to mind. Though, some state governments (e.g. Lagos, Ogun, Borno, etc.) adopted local media channels such as radio and television programmes to reach out to secondary school students. This is to ensure that learning continues even at remote places during the lockdown.

Covid-19 Pandemic

COVID-19, also known as Coronavirus, is a family of viruses called SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome) that causes illnesses ranging from common cold to more severe diseases that cause difficulty in breathing. The Coronavirus Disease that was discovered in Wuhan, China, 2019 has since affected the whole world, in which the World Health Organization (WHO) in January 30th, 2020, declared its outbreak as the sixth public health of emergency of international concern (Waris et al. 2020). According to the Chinese health authorities, the origin of the virus may likely, from a seafood market in Wuhan, where wildlife was traded illegally for food (Ajazeera, 2020). The virus can be transmitted from animals like bat, pangolins, snakes, etc. Also, human to human transmission has been confirmed possible (Ajazeera, 2020).

According to WHO, signs of infection include fever, coughing, sneezing and breathing difficulties. In more severe cases, it can lead to pneumonia, multiple organ failure and even death. Most infected people show symptoms within five to six days. Although, some infected patients may display no symptoms (Ajazeera, 2020). On March 11th, 2020 WHO declared COVID-19 a global pandemic (Hua and Shaw, 2020). COVID-19 quickly spread all over the world in less than 3 months. The number of fatalities from the new corona virus has overwhelmed, and till this day of this publication, cases of the virus are still recorded all over the world despite the measures to contain its spread. The strategies to slow the spread are avoiding social gathering (physical distancing), 14-day quarantine, self-isolation, breaking the chain, mitigating community spreading, and lockdowns.

Online Education

In the last two decades, the internet has grown from nothing into the largest most accessible database of information ever created. The introduction of computer based test in JAMB (Joint Admission Matriculation Board) for secondary school students has removed the stress of students moving around restlessly looking for their Centre and other inconveniences associated with manual method of writing JAMB. According to Shola, 2008 online education is electronically enhanced learning that basically uses the internet for its operation which allows teachers and students interaction and the distribution of class materials. Also, it is a digital means of transmitting knowledge to the learners and it is readily available to learners with the help of the internet in the form of audio, video and text (Michael, 2009). This means there is no physical contact or face to face classroom learning. As online education becomes more prevalent in education, institutions continue to expand their online programs, more and more educators and organizations have become concerned with the quality of online courses (Abdous, 2010). Designing, developing, teaching, and assessing an online course effectively is often a challenge. Many instructors are new to online teaching and need orientation and training for their own readiness in designing, developing, teaching, and assessing courses. It is recognized that effective educations are key to student success in online courses and to the success of online education (Meyer and Jones, 2012). Therefore, it is imperative that instructors and administrators in schools learn more of the best practices and issues of designing, developing, teaching, and assessing online courses and education.

Online education meant carrying out the pedagogical processes through the use of electronic devices that students could access such as smartphones, laptops, and computers. According to Singh & Thurman, 2019 virtual education through the internet makes a platform which eases the education process by making it more flexible, creative, and

student-centered. It can increase equality by making education accessible to everyone with an internet connection and is cost-effective more so for the students in remote and rural areas. Therefore, education provision especially in poor countries becomes easier. WHO identified online education as a crucial instrument to meet educational needs across the world (Colace et al., 2006). Following the closure of schools, colleges and universities during the COVID-19, realized several creative approaches in combating the crisis in education through the use of applications and software such as Microsoft Teams, Zoom, and Google Classroom to help students take online classes. Home-based learning was accepted as a new norm, helping to boost learners' confidence and certainty and to help the schools to keep in touch with the students throughout the period as everyone fought to adapt to the new conditions (Agnolotto & Queiroz, 2020).

Benefits of Online Education

Online education is proving to be very effective in today's Nigerian education chiefly because of insecurity status of the nation. The concept of traditional education has changed radically within the last couple of years. Being physically present in a classroom isn't the only learning option anymore. Its benefits are but not limited to:

1. Students have the freedom to learn wherever they want
2. Students can learn from the comfort of their own home
3. Students can assist parents in doing work while study
4. It reduce students risk of insecurity
5. Greater ability to concentrate
6. Students' shyness is reduce
7. Reduce education costs

Role of Government/Corporate Organizations in Supporting Online Education in Nigerian Secondary Schools

Nigeria as a nation, has recognized the potential of information and communication technology in the secondary school system. This is evidenced in the educational policies aimed at integrating the use of ICT, particularly the computer, in the Nigerian secondary school system. The Nigerian national policy for information technology, recognized the need for ICT to be used in secondary schools (FRN, 2004). On this ground, the federal, state and local governments are on a move to see that secondary school ICT Centre across the country are fully equipped with ICT tools for teaching and learning. The government also put in place various agencies (e.g., NITDA) and different ICT policies (e.g., ICT4D) for developing programs that carter for the smooth running of ICT related activities in Nigeria

and, the boundary concept such as poverty, digital divide and participation work to define the pace in which theory and practice are created (Mollinga, 2010). Secondary school teachers are now sponsored by the government to see that all secondary school teachers are ICT oriented. Nevertheless, Nigeria Content Development and Monitoring Board (NCDMB) has also help in the area of ICT integration in secondary schools. This agency has donated ICT Centre for over 25 government secondary schools across Nigeria including Model Government Secondary School, Okpoama, Brass LGA, Bayelsa State (NCDMB, nd). Their aim is to enhance the quality Science, Technology, Engineering and Mathematics (STEM) in secondary school education. More so, Huawei Technologies Company (HTC) Limited on their little side equally donated computer laboratories to many secondary schools in Nigeria including Government Senior Secondary School, Danbatta, Kano State (Punch, 13th June, 2021). Other organization that added to the growth of ICT integration in Nigeria Secondary Schools include; Shell Nigeria Gas (SNG), Kaduna Inland Dry Port (KIDP), to mention but a few.

Challenges in Adopting Online Education in Nigeria Rural Secondary Schools during the COVID-19 School Closure

Unlike other developed countries in the world, Nigeria rural secondary schools during the outbreak of the coronavirus have witnessed a magnifying drop on the standard of education and educational inequality because only those with access to e-learning are the ones that benefited. This has broadened the social gaps between the have and have not instead of narrowing the gaps. Although, with all the lumps overhead, some rural secondary schools in Nigeria have struggled to actualize the compliance and engaged the students to bridge the gaps predated the outbreak of the virus and the subsequent closure of schools. Some challenges experienced include:

1. No clear policy on online education: There are no clear policies on online education in Nigeria as to combat learning gap in secondary schools using digital learning if there may be outbreak that may lead to stay at home order. The problems of Federal Government in the face of the outbreak of coronavirus were the absence of a clear policy framework, how to contain the spread of the virus and ways to mitigate learning disruptions before it embarked on total lockdown and schools closure (Taibat, 2020). Aiyedun, 2020 added that the shutdown of secondary schools as part of the Federal Government measures to contain the virus in Nigeria, has tremendously interrupted the academic calendar and affected academic syllabus for the year 2020.

2. Lack of electricity: Most rural places in Nigeria, have no electricity supply to power their electrical appliances. The only possible means of power supply are generating

set, solar panel and cell battery which either too expensive for rural dwellers to afford or cannot give the average voltage required to power some of these online gadgets. The absence of power supply or regular power outage has posed barriers to the teachers in rural secondary schools, thereby sabotaging the efforts of adopting online methods of imparting knowledge to students during the global pandemic (Amorighoye, 2020).

3. Adaptability struggle: Moving off the traditional classroom (face to face) method of learning is a lot difficult. Students resistant to change from the use of pen on paper to computer based teaching may not allow them adapt to the online environment. Students in the rural places who used to traditional classroom setting where the chalk board and books are predominantly used may not rapidly accept the idea of these online lessons; not because they do not love gadgets but because the students are not familiar with the digital system.

4. Poor nature of teachers and students: In another development, the harsh economic realities of many rural dwellers deprived many teachers and students to afford personal gadgets to adopt online education. The cost of portable solar radios, television (TV) sets, lap tops, smart phones or even subscription of internet data denied them the opportunity of benefiting the online learning that was generally recommended by governments to educate students during the pandemic. The cost of running the internet may be very expensive for students from poor homes.

5. Poor network relay: The delivery of online lessons (e.g., video conference systems) served as a general premise for online interaction, particularly to facilitate students' understanding. This processes are disrupted due to bad network signal in the rural places. Many students are not provided with the high bandwidth or the strong internet connection that online education requires. In the rural areas where cellular network have not been upgraded to 4G or 5G may experience very slow network connection.

6. Inadequate ICT Centre: Many rural secondary schools in Nigeria lack ICT Centre. There are almost none existing in an entire local government area. It is a thing of a dream for students who ICT Centre do not exist in their schools are suddenly ask to learn online. Some have not seen modern computers in their lives. The few teachers that are available may be ICT handicapped as they lack technical knowhow/equipment to teach practical classes. These posed a serious challenge in the adoption of online education in most rural secondary schools in Nigeria during the COVID-19 school closure.

7. Computer literacy: Some rural secondary school teachers and students have no idea of computers not alone online education. Rural secondary schools where ICT gadgets are available, the ability to use them may not be there. They have no or few ICT teachers with quack ideas who only teach ICT courses or subjects theoretically without students being exposed to practical. Supporting these points, Selwyn, 2012 stated that the major challenge

revolved around the rural secondary schools is the teacher who is to design the instruction and students who may lack the technical proficiency of electrical gadgets. These seriously paralyzed the idea of online education in Nigeria rural secondary schools during the COVID-19 school closure.

8. Diversions of attention to other sites: Secondary school students are adolescents and especially the rural ones are hyperactive and curious to some amazing things they may see online which caught their attentions leaving the main purpose. Students who have access to the internet may not actually stay online for learning if not properly monitored by guidance. The students may easily divert attention to watch and listen to other contents instead of learning. Some sites, sometimes, pop up to entice young people with negative effects which corrupt their good habit.

Ways to Apprehend Similar Challenges in Future Occurrence

1. The Minister of Education recently published a strategy paper on ‘education in the digital world’; requiring schools to foster digital competences in their students across all subjects. Despite these goals, the provision of structural funding to equip schools, such as the so-called ‘Digital Pact’ has leads to critical discussion to emerge in relation on how digital technologies improve student learning in the classroom (Andoh and Buabeng, 2012). The federal, state and local government should provide measurable standard to mitigate the negative impacts of any outbreak on education by providing solar-powered educational devices, pre-loaded with offline academic resources, to teachers and students in rural secondary schools.

2. The Nigeria Education in Emergency Working Group (NWiWwg) strategy which its objective is to mitigate the negative impact of school closures on students and teachers in the North-East Nigeria, should scaled-up to include other regions in the country. Though, these policy measures would require significant financial support, but such investment is worthwhile for the progress of education in the long-term. Looking ahead, it is pertinent to ensure that Learning never stops in rural places in case of any outbreak in the nearest future.

3. Any outbreak like the COVID-19 pandemic, requires not only knowledge and skills but also confidence regarding success in online education. Concerning the affective-motivational area, teachers and students have to focus on self-efficacy as one of the most important constructs in competences. The extent to which they perceive such efficacy may influence whether or not they can take action, invest effort in that action, and how long they may sustain possible challenges. Self-efficacy is advisable for rural secondary school teachers and students to be considered as a decisive resource for them to adapt to online education should there be case of future outbreaks.

4. Closing the ‘gap’ between students’ conventional learning and development at school and ‘the experiences and skills that our students need to enter the information economy’, secondary school curriculum should increasingly be interwoven with ICT. In support of this Kozma, 2011 opined that secondary school students should be given opportunities to use advanced technological tools and digital resources for creative and innovative problem solving.

5. It is important to examine deeper principles of teaching and learning and how teachers integrate technology in pedagogical contexts. Regarding teacher education, the question of how opportunities to learn digital competence should be implemented with the aim of fostering pre-service teachers’ competences so that they are better prepared for digitalization for future schools closure (Jager, Kaspar, and Konig. 2020).

Conclusion

As the COVID-19 pandemic lockdown affected almost all aspects of society and everyday life, people had to learn to organize communication and interaction in a new way. The strategic ways for teachers in Nigeria rural secondary schools to adopted online teaching during and after the COVID-19 school closures are the major concern of the researcher. During the coronavirus pandemic, some secondary school teachers have maintained communication with students by introducing new learning content of teaching and assigning tasks to students through local media (televisions and radios). They equally reviewed the assigned tasks for students to take corrections. However, one of the challenges of such learning is that it is ‘unidirectional’. Communication is only from teachers to students.

References

- Abdous, M. (2010). *Operationalizing Quality Assurance in E-learning: A Process-Oriented Lifecycle Model*. Proceedings of Global Learn Asia Pacific 2010, 731-736.
- Agnoletto, R., & Queiroz, V. (2020). *COVID-19 and the challenges in Education*. The Centro de Estudos Sociedade e Tecnologia (CEST), 5(2). 1-2
- Aiyedun, Tope Gloria (2020). *Effect of Covid-19 on Educational System in Nigeria*.
- Ajazeera. (2020). *Corona virus: All you need to know about symptoms and risks*. https://www.aljazeera.com/news/2020/01/coronavirus-symptoms-vaccines-risks-2001221945096_87.html

The Challenges in Adopting Functional Online Education in Nigeria Rural Secondary Schools during the Covid-19 School Closure - Omosohwofa Felix Aredia

- Amorighoye, T. A. (2020). *COVID-19 has exposed the education divide in Nigeria: This how we can close it*. World Economic Forum, 2 June, <https://www.wforum.org/agenda/2020/06/education-nigeria-covid-19-digital-divide/>
- Andoh, C. Buabeng. (2012). “*Factors Influencing Teachers’ Adoption and Integration of Information and Communication Technology into Teaching: A Review of the Literature.*” *International Journal of Education and Development Using ICT* 8 (1): 79–105. <https://doi.org/10.1080/09523987.2018.1439712>.
- Colace, F., De Santo, M., & Pietrosanto, A. (2006). *Evaluation models for e-learning platform: an AHP approach*. In *Proceedings. Frontiers in Education. 36th Annual Conference* (pp. 1-6). IEEE.
- Eickelmann, B., and Gerick, J. (2020). “*Lernen Mit Digitalen Medien: Zielsetzungen in Zeiten Von Corona Und Unter Besonderer Berücksichtigung Von Sozialen Ungleichheiten [Learning with Digital Media: Objectives in Times of Corona and under Special Consideration of Social Inequities].*” *Die Deutsche Schule* 16: 153 162. <https://doi.org/10.31244/9783830992318.09>.
- Federal Republic of Nigeria (2004). *National policy on education: Revised Edition*. Abuja: NERDC press.
- Fraillon, J., J. Ainley, W. Schulz, T. Friedman, and D. Duckworth. (2019). *Preparing for Life in a Digital World: The IEA International Computer and Information Literacy Study 2018 International Report*. Springer.
- Hua, J., and Shaw, R. (2020). *Coronavirus (COVID-19) “infodemic” and emerging issues through a data lens: the case of China*. *International journal of environmental research and public health* 17 (7): 2309. <https://doi.org/10.3390/ijerph17072309>.
- Jager Biela, D., Kaspar, K. and Konig, J. (2020). “*Opportunities to Learn Digital Media Competences In Education, School, Digitalisation*”. 66–72. Waxmann.
- Kozma, R. B. (2011). “*ICT, Education Transformation, and Economic Development: An Analysis of the US National Educational Technology Plan.*” *E-Learning and Digital Media* 8 (2): 106–120. <https://doi.org/10.2304/elea.2011.8.2.106>.

- Meyer, K. A., & Jones, S. J. (2012). *Graduate Students Rate Institutional Websites: The Must Have, Nice to Have, and Delighted to Have Services*. *Journal of Asynchronous Learning Networks*, 16(1), 5-18.
- Michael O. (2009). *The role of principals in the effective utilization of Instructional materials among selected secondary schools in Kaduna, Nigeria*: Science research journal, vol 7.
- Mollinga, P. P. (2010). *Boundary work and the complexity of natural resources management*, *Crop science* 50 (supplement 1), 1-9.
- NCDMB (nd). *NCDMB Donates Modular Science Lab, ICT Centre to 2 Schools in Bayelsa State*. https://www.google.com/url?q=https://ncdmb.gov.ng/ncdmb-donates-ict-materials-to-schools-in-bayelsa-state/&sa=U&ved=2ahUKEwj-p5fL_fH6AhV-rsIHW3QA68QFnoCAAQAg&usg=AOvVaw29kmkh-JOXgt5D7WyHM1H9
- Punch. (13th June, 2021). NCC boss applauds Huawei for boosting ICT education. <https://punching.com/ncc-boss-applauds-huawei-for-boosting-ict-education/>
- Selwyn, N. (2012). *Education in a Digital World: Global Perspectives on Technology and Education*. Routledge.
- Shola, A. (2008). *Instructional education for educational technology*. Kaduna, Nigeria, Ahmadu Bello University.
- Singh, V., & Thurman, A. (2019). *How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018)*. *American Journal of Distance Education*, 33(4), 289-306.
- Taibat, A. H. (2020). *Education and Covid-19 in Nigeria: Tackling the Digital Divide*. World Literacy Foundation, Monday April 13, <https://www.worldliteracyfoundation.org/education-and-covid-19-nigeria/>
- Waris, A., A. U. Khan, M. Ali, A. Ali, and A. Baset. (2020). *COVID-19 outbreak: current scenario of Pakistan*. *New Microbes and New Infections*. <https://doi.org/10.1016/j.nmni.2020.100681>