COVID-19: Ensuring Continuity of Learning During Scholastic Disruption in Tertiary Institutions in Nigeria

Kunle Olawunmi¹ & Grace, Nwamaka Osakwe^{2,*}

¹Novena University Ogume, Delta State, Nigeria

²Delta State University, Abraka, Nigeria

*Correspondence: Delta State University, Abraka, Nigeria. E-mail: osakweamaka@gmail.com

Received: September 23, 2020 Accepted: May 14, 2021 Online Published: June 12, 2021

doi:10.5430/wje.v11n3p30 URL: https://doi.org/10.5430/wje.v11n3p30

Abstract

Issues concerning learning during educational disruption due to the Covid-19 pandemic have been the subject of many excellent journalistic accounts, but there has not been much scholarly output addressing the experience. The need to maintain social distance poses a significant challenge to the international communities particularly between populations, educators and students. Though elicited by COVID-19 pandemic, the focal point of this challenge remains how to offer learning opportunities to students while stakeholders make efforts to contain an awfully virulent pandemic. In Europe and elsewhere, technology has helped with distance learning; assisting individuals on the margins of society and those in formal economy to achieve learning objectives despite a compulsory social distance regime. In other areas of the world such as Africa, correlation between technology and affordability has become a new frontier for continuing education. Encumbrances brought about by COVID-19 have deeply subverted education, state security, sociopolitical stability and economic development, which in turn create or preserve untoward anomaly. In this light, Africa has become the ground zero of disorientation where disorganized criminal groups fester due to poor education and fewer opportunities. The article examines the effect of COVID-19 in the continuing tertiary education relations and concludes that while blended learning is conceivable in Nigeria, rural schools might not benefit from the programme due to truncated development in communication and low level of technology. The use of affordable Internet Radio is thus, recommended for Nigeria.

Keywords: Africa, Covid-19, eLearning, tertiary education, security and development

1. Background

The emergence of COVID-19 has challenged the World Health Organization (WHO) and its corresponding global health sector to confront the novel epidemic that spread rapidly from its origin to the rest of the globe. The virus itself has been given a feature that contradicts empirical reality of virology and the international community is bewildered by it. While the conjecture that coronavirus is novel is being disputed, so thus its origin. This confused state has provoked opinions as to the nature of the pandemic and as such, the media is fraught with whimsies of conspiracy propositions. Accordingly, two viewpoints exacerbate the intrigue including the coincidence of the 5G technologies and the age of Social Media fake news.

Naturally, a pandemic of this magnitude and spread may not be unfamiliar, yet three things further made COVID-19 singular: The rise of China, the focus on a mystified but imposing Deep State, and increasing ambiguity about 'The End-Time'. Something else seems offbeat about the pandemic, and this is the disruption in learning process and the prospect of disorganized criminal groups festering due to poor education and lack of opportunities in Africa.

Unlike what obtains in developed countries where education is taken for granted, Africa responds unusually to disruptions in education with high increase in crime rate. Arguably, correlation exists between education, literacy rate, unemployment and anxiety. Insecurity is pervasive due to poor education and resultant lack of opportunities. For instance, in 2018, adult literacy rate for Nigeria was 62%. (Nigeria - Adult (15+) Literacy Rate, 2018). This reflects on the Nigeria's unemployment rate as at the second quarter of 2020, which was 27.1% indicating that about 21 million Nigerians remain unemployed. Research showed that Nigeria's unemployment and

underemployment rate of 28.6% is a combined 55.7% and a reflection of poor education programs in the country. According to Oyekanmi (2020) the unemployment rate among young people of 15-34 years was 34.9%, up from 29.7%, while the rate of underemployment for the same age group rose to 28.2% from 25.7% in the 3rd quarter of 2018. These rates were the highest when compared to other age groupings. The disruption occasioned by the pandemic may increase crime rates and youth restiveness in the long run in Nigeria. Of course, this is not the first time a similar pandemic would affect the world, for example, the Severe Acute Respiratory Syndrome (SARS), which occurred towards the end of 2002 led to disruption in education and the need to maintain social distance in the classroom (Ali & Keil, 2006, p. 499). Today, the issue of how to keep students learning during disruption has become a major challenge.

The impact though widespread, is felt more in regions with low technology. United Nations (UN) in its recent report reveal that close to 0.5 billion students are excluded from the benefit of remote learning due to the novel coronavirus pandemic (Akindele, 2020). The UN in collaboration with experts from several international agencies further presents an overview of progress as it upsets development and growth across the globe particularly at the outset of the COVID-19 by leveraging on expected goals and targets. However, the sheer magnitude of school closures particularly in Africa could retard future growth and slow down development considerably. This has become a concern to Africa with lasting human development difficulties.

2. Issues about Learning during Educational Disruption

A global report as at 17th November 2020, revealed that there have been fifty four million seven hundred and seventy one thousand, eight hundred and eighty eight (54,771,888) confirmed cases of COVID-19, including one million, three hundred and twenty four thousand two hundred and forty nine (1,324,249) deaths (World Health Organization, 2020b). The outbreak also poses serious concerns to global education systems, prompting initiatives for spontaneous school closures and depriving over one billion learners out of school. The issue of COVID-19 surely underscores the damaging effects on education sector and the need for all educational institutions, educators, and learners to adopt technology in line with the emerging global trends and realities in education. (Onyema, Nwafor, Obafemi & Sen 2020).

What made coronavirus unique is the way it affects the restive youths, particularly those of school age. No doubt, there is a theoretical linkage between eLearning and technology, while the traditional approach to learning has become inflexible, the challenge of structural unemployment for teachers as they lag behind in computer education and related learning management system has become worrisome. Technology has become more relevant to education in the 21st century. According to Onyema and Deborah (2019) there is a switch of roles for teachers from that of dispensers to facilitators of knowledge. Without the know-how it would be difficult to facilitate remote learning.

The emergence of a novel coronavirus requires an understanding of the transmission patterns, severity, clinical features and risk factors. This has become a major issue for educational institutions across the globe. The UN protocol portends that it is critical to refine extant recommendations for case definitions and surveillance; characterize key epidemiological features of COVID-19 which would help understand the spread, severity and spectrum of disease and its impact on the community and inform guidance for application of counter measures such as case isolation and contact tracing. Because it is a novel virus, all these protocols must be understood and health workers must be trained adequately and the vaccine must be available before proper education process could ensue (World Health Organization, 2020). Most countries were caught in the web and there is a need to change the way we learn

3. The Impact of COVID-19 on Education

Recently, report by UNESCO reveals that a total of 91% in about 90 countries are temporarily forced out of schools. (UNESCO, 2020). Figure 1, illustrates that Africa and South America are mostly affected countrywide. This is very significant because these regions are already burdened by high rate of youth unemployment and crimes.

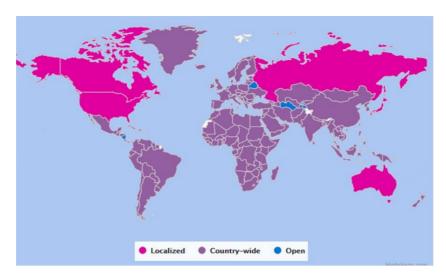


Figure 1. The Figure Shows There are More Country Wide Closures of Schools in Africa and South America than in Other Continents (UNESCO, 2020)

Indeed, teaching and learning cannot be conducted due to nationwide lockdown in Africa particularly in localized areas where electricity and network data are in most cases unavailable and beyond the reach of poor parents where they are available. With already high unemployment rate and insecurity, closure of tertiary institutions for a longer period could further heighten disquiet in Nigeria.

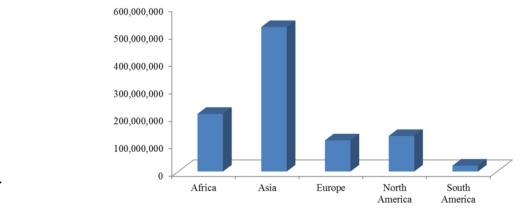


Figure 2. Geo-spread of Pupils out of School due to COVID-19. It Shows There are More out of School Children in Asia and Africa (UNESCO 2020)

According to Adesina (2013) in a study of unemployment and insecurity in Nigeria there is a link between unemployment and insecurity. He described the situation with the popular maxim of "the idle mind is the devils workshop", noting that the majority of the youths are poor, hungry, jobless and unemployed. These conditions breed violent crimes of murder, sexual violence, assaults and cultism. To compound the challenge, Guza, Musa and Elijah (2019) observed that majority of Nigerian graduates are touted as being unemployable due to already low educational standards and unemployment seems to be the reason for increased violence in Nigeria. The advent of Fulani Herdsmen, kidnappers and Boko Haram terrorist activities that imperiled the well-being and safety of the citizen have shown that these cohorts are made up of idle youths.

With an estimated ten million school-aged children out of schools in Nigeria (United States Embassy in Nigeria, 2012), there is a probability that closing down educational institutions due to this pandemic could further worsen insecurity in Nigeria. The University Commission in Nigeria has it that there are 43 Federal, 52 State and 79 Private Universities in 2017 and these could increase to about 292 by the year 2020. This is a high figure of tertiary

institutions as compared to other countries in Sub-Saharan Africa. The Nigerian Universities' Statistical Digest publications of 2017 reports that close to 2 million students are in Nigerian University (Wahab, 2018). These are the restless demographic group currently idle in Nigeria and there are fears in many quarters that any further assault on education due to COVID-19 is likely to exacerbate insecurity in Nigeria. COVID-19 pandemic and its associated influence on national and international strategic educational policy could further undermine state security, stability, social and economic development in Africa and Nigeria in particular.

3.1 Requirement for Flexible Learning

The recent outbreak of the coronavirus pandemic increased the gaps in the education sector globally. Though, the coronavirus pandemic is novel, it has noxious effects on humanity. Its outbreak has created educational disruptions and global health concerns that proved very difficult to manage by global health systems. As at now, no nation or race across the world is immune from the coronavirus pandemic, and the entire world seems overwhelmed by the speed of the spread and the devastating effects of COVID-19. The coronavirus pandemic has no boundaries, and the effect is large and fast. Just within few months of the outbreak of the disease, it has drastically changed the lifestyles of the entire world with billions of people being forced to 'stay at home', 'observe self-isolation', and work and learn from home. It has limited the freedom of people to move, trade or associate. Not only has COVID-19 caused a total lockdown in many countries across the world, it has also caused the death of thousands of people including, women, and the elderly. It was more worrisome to know that reports from various continents, including America, Africa, Asia, and Europe indicated a daily increase in the number of new cases and mortality. Governments took the decision to close schools including tertiary educational institutions in their attempts to achieve safe distance. Onyema et al (2020) observed that lecturers and scholars have resolved to distance learning from home in order to bridge the gaps. Massive efforts are being made to develop online learning management system. Accordingly, innovative learning approaches that until now have been gradually implemented in classroom practice are getting a powerful push, which could have an impact on how countries shape their education process and procedures in the future.

Compared to other developed nations such as the United States of America and Germany, Nigeria was caught unprepared by the pandemic and close to 98% of its tertiary institutions could not offer remote learning to students through virtual classrooms. The immediate cause was due to dearth of infrastructure, low-income parents and poor standards. Some unusual approaches have been attempted including the application of WhatsApp group chat, text messages, emails, while at the same time those who could afford the technology and seamless network coverage resorted to using Zoom applications. Nigeria must improve on these irrespective of the fate of COVID-19 vaccination programme.

Generally, meager government extra-budgetary allocation, lack of basic infrastructure in most tertiary institutions, and challenges of poverty have precluded most learners in the developing world from gaining access to the new technology-based education. Some learners could not afford expensive Android phones; Laptops, Desktops and those who have, eventually capitulate under the pressure and costs of data. There are equally those that leave in remote places where electricity and stable network make it practically impossible to key into some of the novel learning ideas. This is further exacerbated by poor knowledge of computer-based learning procedures, a stake that is taken for granted in most industrialized environments. As such, the educational gaps between Africa and the rest of the world could further widen.

Another challenge for Africa is that of culture of impunity that has pervaded the corridors of power. Most leaders at all levels of governance are not held accountable to bad behaviors. The culture of corruption, nepotism, obscene cult-like associations that favor indolence and injustice have further left most institutions at the lowest level of performance. The regulatory bodies at different tiers have been compromised and as such the decay in African institutions has been brought out vividly by the pandemic. Poor classroom culture, poor lightings, water, hostel accommodations that are not fit for students are part of the challenge of learning such that the absence of simple provisions as hand washing facilities could make recovery from COVID-19 more difficult. Of all regions, sub-Saharan Africa faces the biggest challenges with basic hand washing facilities in only 38 per cent of primary schools and 43 per cent of tertiary schools (World Health Organization, 2020).

3.2 Technology Enhanced Learning

The advent of COVID-19 has promoted eLearning, which has dominated the field of education and introduced a new dimension in teaching and learning. It has provided more options in the teaching and learning process and many educational institutions have no choice but to embrace it. Lecturers, who argue that online teaching is not suitable for their class, may want to examine other opportunities where eLearning can be beneficial to suit a variety of options. Lormine (2002) suggests that online learning can take many forms including: Conceptual Learning, which makes

students discover and practice new theories and models. It is often exemplified through concept maps and exercises in collaborative learning. It contributes to web-based discussions, sharing of knowledge and developing a better understanding of the subject matter. Research and Analysis avail students opportunities to use the Internet to gather information, documents, objects, texts, pictures that could be used for critical analysis and evaluation, presentations by teachers or other students in syndicates, graphics and animations.

Giving the right circumstances and environment, online learning offers information-based technology and it is easy to access irrespective of time and distance; this makes it very convenient for users. It saves time, cost and a solution to conflict in schedules.

Lormine (2002) observes that online work leads to opportunities in time management as one can organize appointments, tutorials or meetings in free hours when teaching would normally take place. ELearning is a flexible option when faced with the problem of inadequate teachers and provides opportunities for availability of more courses to be delivered to students. Gunga and Ricketts (2007) emphasize that there are various flexible learning styles for students that would encourage learners to carry out research in other to discover new knowledge through individualized initiatives. They further note that students have the added opportunity to listen and think more during sessions and those materials could be used later in creating learning notes. This could afford them spare time to ask questions and work in a more active environment without worrying about losing salient points or essential details. Aside the advantage of flexible learning, Arkorful and Abaido (2014) suggest that eLearning is cost effective particularly as it offers opportunities for maximum number of learners to participate without the need for more buildings. Accordingly, when concerns about time and space are reflected upon, every student has the luxury of choosing the place and time that best suits them.

4. Challenges of ELearning in Covid-19 Pandemic

The Covid -19 Pandemic necessitated the closing down of schools and many countries have taken the initiative for an undisrupted learning with eLearning. ELearning has afforded students the opportunity to learn from the comfort of their homes and at their own pace. However, there are some challenges emanating from this process.

A primary challenge to eLearning is finance; the purchase, installation and management of eLearning facilities are very expensive and not affordable by many higher institutions in Nigeria. The reason is not farfetched; the annual budgetary allocation has never gone beyond 8% which is far below UNESCO's 15-20% recommended allocation for developing countries (Wikina 2020). The Academic Union of Universities in Nigeria (ASUU) is of the view that the nations tertiary institutions are not prepared for eLearning because of poor infrastructure, inadequate funding and lack of requisite technical skills.

Successful eLearning requires that students should be able to access the eLearning environment and the technology employed by the institution should be affordable. Unfortunately, a lot of students are not able to do so and are excluded from the learning process. Waruru and Nakweya (2020) noted that most students do not have laptops or money to buy Internet data bundles to sustain a three-hour on line course and some of them live in far-flung areas and do not have access to the Internet.

ELearning requires steady and reliable electricity supply to enable access to the World Wide Web (www). In Nigeria, power supply is erratic and unreliable. Though the generator is an alternative, it still poses the challenge of an extra cost, especially on people in the rural areas.

ELearning is effective for persons with a minimum level of computer skills to enhance the use of the World Wide Web, the variety of search engines and access email. Persons without basic knowledge in ICTs tend to develop a phobia, anxiety and try to shy away from its use. Osakwe (2011) observed that less experienced lecturers make more use of ICTs for teaching and research than experienced lecturers because they had early exposure to ICTs. Some other teachers could be reluctant to use eLearning because of the nature of some courses, lack of technical support and low competency in computer skills. In support of this, Bibiana and Omoru (2012) opine that some traditional hands-on courses could be difficult to simulate in an eLearning environment.

The quality of assessment of the learner in the eLearning environment is sometimes in doubt because the learner could easily have access to cheat. In the opinion of Arkorful and Abaidoo (2014) it is difficult to regulate or control cheating during an assessment, which could be done by use of proxy.

In the traditional classroom the physical presence of the teacher, peer groups and the school environment motivate students to attend classes, participate in classroom discussions and assignments. It also affords students and teachers

face-to-face feedback. This enables students to resolve some learning difficulties, making teaching and learning richer and more meaningful. This is unlike eLearning environment where there are more distractions than motivators. Lormie (2020), comments that instructors are challenged to convey their intensions accurately and provide feedback to help students achieve the desired learning objectives.

There is a tendency to spend too much time on the computer. This can result in social isolation and consequently, mental health disorders. In support of this, Arkorful and Abaidoo (2014) noted that eLearning makes the learner undergo contemplation, remoteness, as well as lack of interaction or relation.

ELearning is still evolving, such that new technologies and innovations constantly flood the markets. It is financially tasking trying to keep up with new inventions. Once many learning courses become used to chosen systems, the institution will face the obligation to stick with it or the investment in the design and development of the courses may be wasted. (Liang and Chen, 2012).

The very ethos of the Internet is to share information and this is almost opposite to the philosophy of copyright and intellectual property (Liang and Chen, 2012). In eLearning some lecturers sometimes breach the ethos of copyright by accessing articles, books and making copies for students or upload password-protected pages. The question is, where does Africa and Nigeria fit into all these.

4.1 Learning Proposal for Africa's Sustainable Development

Challenges of Inadequate computer skills: Teachers who do not have adequate computer skills should be encouraged to learn more about the computer to enable them surf the Internet for useful resources in learning. Lormine (2002) suggests that help could be sought through training sessions, e-books, IT support staff in institutions and assistance from other experienced colleagues. In Multi lingual Communication, Liang and Chen (2012) have noted that due to development in multilingual technology; it is now possible to access the Internet using one's native language. Those who cannot speak or read English can increasingly access online learning in their native language. This trend encourages more participation to explore other potentials of eLearning. There are a wide range of educational platforms and resources to help students, teachers, and institutions to aid undisrupted learning in COVID 19 pandemic. These, according to UNESCO are digital learning management systems which are procedures leading to personal learning pathways with micro lessons to address gaps in knowledge, also of importance are systems built for use on basic skills-based learning platforms with off-line options and systems with strong off-line functionality that enables lifelong learning for underserved communities.

4.2 Internet Education Radio Solutions

The global disruption in all facets of life occasioned COVID-19 pandemic has created a new normal and also impelled us with a sense of new awareness and urgency. Among other suggestions, Internet Radio has a profound effect on almost all facets of students' lives and education. The constraint of technology notwithstanding, Internet Radio could become a game changer for African educational system, leveraging access to education and regardless of where students are located. As a forward-looking educational institutional remedy, there is the need to take total advantage of the Internet Radio for education delivery most especially in view of short, medium- and long-term impact on the education process and outcomes. With Studios in place for content development, the Internet Radio platform could run both on the Web and Mobile app. Aside the fact that it will help bring students and staff together, the platform would enable students to express themselves creatively and build confidence working individually on projects or be part of a team. The miniature terrestrial Radio Component embedded in such platform would help students gain valuable experience in radio technology and set them up for a future career in media and radio broadcasting and deepen their communication skills. It would assist educational institutions particularly in Africa to have vibrant Press Club as the studios equally provide the additional catalyst for the students to 'ply their trade'. More so, it would add to students and faculty members the propensity for creative outlet and a multiplier to explore, learn and teach in a fun way as they can have broadcast for events like school debate, cultural and value teachings.

For Africa, the provision of Internet Radio would also enable schools report events in an easy and fun manner to parents and to the local community. Educational institutions could go live at a scheduled time to broadcast crucial messages to stakeholders. Furthermore, it creates a new global visibility for such institutions and for listeners to get information about their school and about the world. It could also help to grow community and global consciousness about the image brand and quality of education and curricular activities the school offers. Additionally, the provision of Internet Radio could become a veritable tool to have after-class lessons on specific subjects in the weeks running up to exams and deadlines. It provides the enablement to the guild of teaching staff to a new level of knowledge and skills and help teachers connect and communicate with students in new and innovative ways. The Online Radio

could run on Cloud based platform for live show or programme schedule or automated shows, flexible enough to create reoccurring events so the school can plan all education programmes throughout the week. For effectiveness, the Internet Radio should be 24/7 automation, which would allow schools run non-stop schedule of education content without worry about changing contents.

In the immediate future, Africa and Nigeria in particular could upgrade the proposed Internet Radio studio to Multimedia Studio so as to accommodate HD Camera and other accessories. Schools may consider scaling up this initiative to a full fledge Online Virtual Classroom. In the long run, Africa and Nigerian Tertiary education curriculum could be tailored to fit into the ultimate Online Platform, that is, Paperless learning where each student would have a pre programmed tablet for all the school engagements. This is highly recommended for Africa.

5. Perspectives on COVID-19 Disruption to Learning

In the end, disruption to learning brought about by COVID-19 could in the long run increase crime rate in Nigeria due to large number of youths that are out of school and likelihood of increase in the number of unemployable youths and poverty. Thus, upholding undeterred focus to create conditions that foster learning and critical thinking for students will anchor Nigeria as we reimagine school through distance learning. It is certain that large-scale outbreaks of pandemic diseases, natural disasters, or serious air pollution will always occur, and Nigeria would no longer be caught napping again. There is therefore, a need to develop the science and technology base of the country particularly in areas of education. Aside from changing some areas of tertiary educational curriculum, the leadership should also ensure greater focus of development communication as a priority in order to foster human development. It is also instructive that lecturers in tertiary institutions should improve on pedagogies that rely on technology.

No doubt, ensuring continuity of learning during scholastic disruption in tertiary institutions in Nigeria would necessitate virtual classes. At the same time, it would reduce the old method of one-on-one classroom contact thereby creating a bridge to learning. It must be stated that despite the draw backs, distance learning if well packaged can sometimes be felt by participants as much more intimate than physical presence. Interactive lecture may only involve one-way communication whereas an in-depth discourse using a text-based discussion forum can be very interactive. Lack of physical presence could be compensated according to Beth (2017), by structuring the course of study to decrease emails and increase positive interactions, the use of discussion boards could be helpful to decrease student confusion, or creating space for them to ask questions in a discussion chartroom. Aside from the proposition for Internet radio, students could also connect through phone meetings, videoconferences and creating group work; in this case on line classroom could get students better connected.

6. Recommendations

Gleaning from above, the following are proposed as recommendations.

- a) Nigeria in the immediate future should encourage the use of Internet Radio studio equipped with Multimedia facilities, HD Camera and other accessories.
- b) Nigeria should provide free or highly subsidized data for tertiary institutions.
- c) Nigeria should use television in some context where infrastructure lags behind.
- d) UNESCO education policy should favor Africa to safeguard peace and development.
- e) Nigeria should develop effective management of IT infrastructure essential for its development.

References

Adesina, O. S. (2013). Unemployment and security challenges in Nigeria. *International Journal of Humanities and* Social Sciences, 3(7), 146-156.

Akindele, A. S. (2020). Coronavirus: Remote learning out of reach for 500 million students-UN. Premiumtimes.com. Retrieved https://www.premiumtimesng.com/news/more-news/402082-coronavirus-remote-learning-out-of-reach-for-500million-students-un.html#.XwfcYCarFHU.twitter

Ali, S. H., & Keil, R. (2006). Global cities and the spread of infectious disease: The case of severe acute respiratory Canada. Urban Studies-Sage 491-509. syndrome (SARS) in Toronto, Journals,

https://doi.org/10.1080/00420980500452458

http://wje.sciedupress.com

- Arkorful, V., & Abaidoo, N. (2014). The Role of eLearning advantages and disadvantages of its adoption in higher education. *International Journal of Education Research*, 2(12), 397-409.
- Beth T. (2017). Common challenges for faculty in the online classroom: Strategies to mitigate student faculty frustrations.

 Retrieved from https://researchgate.net/publications/31734771_common_challenges_for_faculty_in_the_on_line_classroom_tra tegies_to_mitigate_student_and_faculty_frustration
- Gunga, S., & Ricketts, I. (2007). Facing challenges of e-learning initiatives in African universities. *British Journal of Educational Technology*, 38(5), 896-906. https://dx.doi.org/1111/J.1467–8535.2006.00677.x
- Guza, G. M., Musa, A. B., & Elijah, S. (2019). Violent crime and unemployment in Nigeria. *An ARDL bound test cointegration*, 6(4), 21-24.
- Liang, R., & Chen, V. T. (2012). Online learning: Trends, potentials and challenges. *Creative Education*, 3(8), 1332-133. https://dx.doi.org/10.4236/ce.2012.38195
- Lormine, L. L. (2002). Online learning and teaching, hospitality, leisure, sport and tourism: Myths, opportunities and challenges. *Journal of Hospitality Leisure, Sport and Tourism Education, 1*(1), 43-49. https://dx.doi.org/10.3794/jobsite.11.13
- Mehaye, N. E. (2020). The Impact of COVID-19 Pandemic on Education: Navigating Forward the Pedagogy of Blended Learning. *Academia.Edu*, 5. Retrieved from https://dlwqtxts1xzle7.cloudfront.net/63078073/The_Impact_of_COVID_Corrected-120200424-26604-l2qry5. pdf?1587748671=&response-content
- Nigeria-Adult (15+) literacy rate. Retrieved 2018, June 24 from https://knoema.com/atlas/Nigeria/topics/Education/Literacy/Adult-literacy-rate
- Onyema, E. D., Nwafor, C., Obafemi, F., & Sen, S. (2020). Impact of coronavirus pandemic on education. *Research Gate*, 11(13), 108-121. https://doi.org/10.7176/JEP/11-13-12
- Osakwe, G. N. (2011). An assessment of the role of information and communication technology (ICT) on research in Nigeria's tertiary institutions. *Nigerian Journal of Education, Administration and Planning, 11*(3), 12-20.
- Oyekanmi, S. (2020). *Nigeria's unemployment rate jumps to 27.1% as at 2020 Q2*. Nairametrics.com. Retrieved from https://nairametrics.com/2020/08/14/breaking-nigeria-unemployment-rate-jumps-to-27-1/UNESCO
- United Nations, Department of economic and social affairs, & statistic division. (2020, Febuary20). *The sustainable development goals report 2020*. Retrieved from https://Unstats.Un.Org/Sdgs/Report/2020/
- United States Embassy in Nigeria. (2012, January). Nigeria Education Fact Sheet. Retrieved from https://photos.state.gov/libraries/nigeria/487468/pdfs/JanuaryEducationFactSheet.pdf
- Wahab, B. (2018, August 5). *NUC says there are 1.9m Students in Nigerian Universities*. Pulse. Ng. Retrieved from https://www.pulse.ng/communities/student/national-universities-commission-nuc-says-there-are-19m-students-in-nigerian/3tgpcd7
- Wikina, E. (2020). medium.com/@ebenezarwikina/Nigeria-public-education-in-a-post-covid-world-strategies-for-inclusive-learnin g-in-tertiary-cffof9648f95
- World Health Organization. (2020). 2 in 5 Schools around the World lacked basic handwashing facilities prior to COVID-19 pandemic. Retrieved from https://www.who.int/news-room/detail/13-08-2020-2-in-5-schools-around-the-world-lacked-basic-handwashing -facilities-prior-to-covid-19-pandemic-unicef-who
- World Health Organization. (2020, September 28). Schools and other educational institutions transmission investigation protocol for coronavirus disease 2019 (COVID-19). Retrieved from https://Apps.Who.Int/Iris/Bitstream/Handle/10665/336253/WHO-2019-NCoV-Schools_transmission-2020.1-En g.Pdf?Sequence=1&isAllowed=y
- World Health Organization. (2020b, November 17). WHO Coronavirus Disease (COVID-19) Dashboard. Retrieved from https://Covid19.Who.Int/?Gclid=Cj0KCQiAqdP9BRDVARIsAGSZ8AIW07q-8XT8i YoGwasBO8npbsOGd87

ZvDzkkhFFu8Wg2hUfUKIW7AaArU1EALw wcB

Zhong, B. L., Luo, W., Li, H. M., Zhang, Q. Q., Liu, X. G., & Li, W. T. (2020). Knowledge, attitudes and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: A quick online cross-sectional survey. *International Journal of Biological Science*, 16(10), 1745-52.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).