Online Learning During COVID-19 Pandemic in Africa: A Wake-up Call on the Educational Sector

Abayomi Oyeyemi Ajagbe[1]*, **Oluwanisola Akanji Onigbinde[1]**, **Oluwatosin Imoleayo Oyeniran[2]**, **Terkuma Chia[1]**

[1]Department of Anatomy, Faculty of Basic Medical Sciences, College of Health Sciences, Nile University of Nigeria, P.M.B. 900001, Abuja, Nigeria
[2]Department of Physiology, Faculty of Basic Medical Sciences, College of Health Sciences, Nile University of Nigeria, P.M.B. 900001, Abuja, Nigeria

Abstract
The novel coronavirus disease 2019 (COVID-19) pandemic which emanated from Wuhan, China, and its successive spread across the globe had a tremendous impact on virtually all spheres of human endeavors such as economy, health, livelihood, and education amongst others. The widespread restrictions currently placed on movement and mass gatherings have made educational and academic activities to be grounded globally. In recent years, the concept of learning has gradually transformed from traditional classroom methods to online learning where students acquire knowledge through invisible classrooms. Most learning institutions in Africa may encounter difficulties in turning to this new form of learning due to the lack of information and communication technology (ICT) facilities of international standards. Although many students today possess internet-enabled devices, they cannot access the internet due to unaffordable data subscriptions, which have made most learners use their devices for non-educational purposes. As the COVID-19 pandemic continues to ravage the African continent, the possibility to re-open the schools remains bleak. Thus, governments, authorities, and regulatory bodies in individual countries must improve their existing ICT infrastructures for a better online learning experience. This paper serves as a wake-up call for Africa and its educational sector to transit to online learning.
Keywords: Africa, COVID-19, Online learning, Education, Pandemic

Introduction

The emergence of the new coronavirus disease 2019 (COVID-19) in Wuhan, China, and its successive spread across the globe have strongly affected all spheres of human endeavors.[1] Africa has had its fair share of the pandemic with over 383 747 confirmed cases and 9691 recorded deaths on July 10, 2020,[2] and there is fear of a monumental increase in cases if utmost care is not taken.[3-7] This led to imposing various forms of restrictions on human movement and lockdowns on social, religious, economic, and educational activities across numerous communities and cities globally.[6-8] One of the public health safety strategies employed to reduce mass gatherings in most countries is the enforcement of social and physical distancing which is one of the mitigative measures recommended by the World Health Organization (WHO).[9,10] With these restrictions, learning institutions were also temporarily shut down as a measure to lessen the spread of the virus.[9] School closure implies that learners at all levels of education ranging from primary to tertiary institutions do not attend the school.[11] To ensure that learners are engaged as well as cover their courses and curricula, many institutions had to recourse to online learning.

Discussion

In recent years, the concept of learning has steadily metamorphosed from traditional classroom methods to distance learning and now online learning. Online learning can be defined as an electronic learning system where students can acquire or gain knowledge at any time or location on the internet.[12] This form of learning in which students acquire knowledge through invisible classrooms is gradually evolving[13] and entails learning

from information disseminated electronically via online courses, online discussion forums, video conferencing, and the like.[14] Modern platforms for online learning include Zoom meeting, WeTransfer, Google classroom, Adobe Captivate, Facebook, and YouTube among others.[15]

With the advent of the COVID-19 pandemic and its remarkable effects on virtually all spheres of human endeavors spanning politics, finance, health, livelihood, science, research, and education, most learning institutions around the world are now rapidly transiting to online learning.[16] It is noteworthy that most privately-owned learning institutions in the African continent are taking the lead in championing the course of this transition.[17] However, the percentage of the entire private-owned tertiary learning institutions in Africa, specifically in Nigeria (about 6%), is extremely low compared with the public or government-owned counterparts which account for the remaining 94%.[18,19] This low composition directly leads to a decrease in students' intake and the overall population of learners in these institutions.[20] The possible effects of the restrictions of social activities and human movement on academic and educational activities have been a major concern for the entire academic community in Africa, including teachers, learners, and parents.[18] Several factors such as inadequate funding, lack of infrastructure, and industrial actions by academic staff may pose a challenge to the educational system.[20]

The challenges of the COVID-19 pandemic on our educational system are notable with far-reaching effects. However, this should not be a major source of concern if most African learning institutions are equipped with state-of-the-art information and communication technology (ICT) facilities with international standards. Although today, the majority of learners in various learning institutions of higher education in Africa possess internet-enabled devices, they are unable to access the internet.[21] Poor access to quality internet connection coupled with very expensive data subscriptions has limited the number of online learning users. This caused most learners to use their devices for non-educational purposes such as watching videos, playing games, taking photographs, and engaging in other social activities.[22] By so doing, the device that is supposed to be channeled for their educational purposes and academic pursuit is now a source of poor academic performance.

The non-availability of quality internet access has not only affected the students but also educators.[23] Academic and educational activities in most developed countries are least affected by this lockdown and movement restrictions due to the presence of quality internet access at their disposal, thus making the transition to online learning easier and sustainable.[24] However, the reverse is the case for most of Africa's learning institutions that their academic activities have been grounded due to the COVID-19 pandemic. Despite the availability of ICT facilities in some government or public-owned schools created for learning purposes, the majority have either become moribund or non-functional. However, the few functioning ones are extremely limited in capacity and overwhelmed.

As multiple containment strategies and efforts for combating this pandemic are currently ongoing, the possibility of easing movement restrictions and returning to normalcy in most African countries is not feasible in the coming weeks. Therefore, academic activities should be re-activated by transiting to online learning. To achieve this great feat, it is strongly recommended that government at all levels should ensure that they provide quality internet access and connection to the general public, especially to the educational sector. This will allow both educators and learners to have access to the internet and online learning regardless of their location.

Conclusion

Establishing distance learning institutions as seen in some African countries is noteworthy. A classical example is the National Open University of Nigeria (NOUN), where thousands of students have access to University education via electronic learning usually by downloading learning materials online.[25] This mode of learning even though applauded is limited because lectures are not presented online in real time and are not interactive. It is also generally marred with several hiccups such as logistics, management, and technical deficiencies in its operations.[26]

No doubt, the entire African continent is in dire need of workable alternatives to the conventional teaching method in the face of a scourging pandemic. Thus, this is a wake-up call to Africa and its education sector as it is now expedient for the government, authorities, and regulatory bodies in individual countries to improve their existing ICT infrastructures and educational facilities. This can be achieved via upgrading and developing modern and state-of-the-art technology to be used in online teaching following international standards and best global practices. The government should also ensure that there is unrestricted access to quality and affordable internet connection which will not only help the education sector but other valuable sectors such as health, commerce, agriculture, transportation, production, and manufacturing, to name a few.

Recommendation

Governments of African nations should ensure mutual partnership with internet service providers and academic institutions to encourage online learning even after the pandemic is over and life restores to normalcy. Quality internet access and an uninterruptable power supply are necessities that must be made available and affordable

for the public for the smooth running of online learning. For better dissemination of information and learning instructions to learners, subjects could be introduced and taught in different languages of instruction or local dialects. Moreso, as there are lots of distractions on the internet today, self-discipline is vital for learners if online learning is going to be effective and efficient. In conclusion, there are numerous challenges associated with the transition from conventional learning to online learning; therefore, for online learning to be effective and efficient, all major stakeholders including the government, educators, and parents should be aware of their responsibilities.

Authors' Contribution

Conceptualization: Abayomi Oyeyemi Ajagbe, Oluwanisola Akanji Onigbinde.
Data curation: Abayomi Oyeyemi Ajagbe, Oluwanisola Akanji Onigbinde.
Formal Analysis: Abayomi Oyeyemi Ajagbe, Oluwanisola Akanji Onigbinde.
Funding acquisition: Abayomi Oyeyemi Ajagbe, Oluwanisola Akanji Onigbinde.
Investigation: Abayomi Oyeyemi Ajagbe, Oluwanisola Akanji Onigbinde.
Methodology. Abayomi Oyeyemi Ajagbe, Oluwanisola Akanji Onigbinde.
Project administration: Oluwatosin Imoleayo Oyeniran, Terkuma Chia.
Resources: Oluwatosin Imoleayo Oyeniran, Terkuma Chia.
Supervision: Oluwatosin Imoleayo Oyeniran, Terkuma Chia.
Validation: Oluwatosin Imoleayo Oyeniran, Terkuma Chia.
Visualization: Oluwatosin Imoleayo Oyeniran, Terkuma Chia.
Writing – original draft: Oluwatosin Imoleayo Oyeniran, Terkuma Chia.
Writing – review & editing: Oluwatosin Imoleayo Oyeniran, Terkuma Chia.
All the authors revised and approved the final version of the manuscript.

Competing Interests

The authors have no conflict of interest to declare.

Ethical Approval

Not applicable.

References

1. World Health Organization (WHO). Rolling Updates on Coronavirus Disease (COVID-19). 2020. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen. Accessed July 2, 2020.
2. Africa CDC. Africa CDC Dashboard. 2020. Available from: https://africacdc.org/covid-19/. Accessed July 10, 2020.
3. Chia T, Oyeniran OI. Will Africa experience a spike in COVID-19 cases? Asian Pac J Trop Med. 2020;13(7):285-7. doi: 10.4103/1995-7645.282560.
4. Oyeniran OI, Chia T. Novel coronavirus disease 2019 (COVID-19) outbreak in Nigeria: how effective are government interventions? Ethics Med Public Health. 2020;14:100515. doi: 10.1016/j.jemep.2020.100515.
5. Oraebosi MI, Chia T, Oyeniran OI. Preparing the next generation of African healthcare workers and scientists: lessons from corona virus pandemic. Ethics Med Public Health. 2020;14:100535. doi: 10.1016/j.jemep.2020.100535.
6. Oyeniran OI, Chia T, Oraebosi MI. Combating COVID-19 pandemic in Africa: an urgent call to scale up laboratory testing capacities. Ethics Med Public Health. 2020;15:100552. doi: 10.1016/j.jemep.2020.100552.
7. Oyeniran OI, Chia T. Fighting the Coronavirus disease (COVID-19) pandemic: employing lessons from the Ebola virus disease response. Ethics Med Public Health. 2020;15:100558. doi: 10.1016/j.jemep.2020.100558.
8. Ajagbe AO, Onigbinde OA, Oyeniran OI, Chia T. Mental morbidity arising from social isolation during COVID-19 outbreak. Ulutas Med J. 2020;6(2):97-100. doi: 10.5455/umj.20200607043118.
9. Chia T, Oyeniran OI. Human health versus human rights: an emerging ethical dilemma arising from coronavirus disease pandemic. Ethics Med Public Health. 2020;14:100511. doi: 10.1016/j.jemep.2020.100511.
10. Nigeria Center for Disease Control (NCDC). Self Isolation & Quarantine Guide. 2020. Available from: https://covid19.ncdc.gov.ng/media/files/SelfIsolation_QuarantineGuide.pdf.pdf. Accessed July 5, 2020.
11. UNESCO. Half of World's Student Population Not Attending School: UNESCO Launches Global Coalition to Accelerate Deployment of Remote Learning Solutions. 2020. Available from: https://en.unesco.org/news/half-worlds-student-population-not-attending-school-unescolaunches-global-coalition-accelerate. Accessed July 4, 2020.
12. Shabha G. An assessment of the effectiveness of e-learning on university space planning and design. Facilities. 2004;22(3/4):79-86. doi: 10.1108/02632770410527815.
13. Tham CM, Werner JM. Designing and evaluating e-learning in higher education: a review and recommendations. J Leadersh Organ Stud. 2005;11(2):15-25. doi: 10.1177/107179190501100203.
14. Cappel JJ, Hayen RL. Evaluating e-learning: a case study. J Comput Inf Syst. 2004;44(4):49-56. doi: 10.1080/08874417.2004.11647595.
15. Dalton W, Turner B. Best Online Learning Platforms of 2020: LMS and VLE for Education. 2020. Available from: https://www.techradar.com/best/best-online-learning-platforms. Accessed July 5, 2020.
16. Hodges CB, Moore S, Lockee BB, Trust T, Bond MA. The Difference Between Emergency Remote Teaching and Online Learning. 2020. Available from: https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning. Accessed July 4, 2020.
17. Pande SK. Enhancing learning opportunities through development of open and distance education in Africa. In: Chandra Pandey U, Indrakanti V, eds. Optimizing Open and Distance Learning in Higher Education Institutions. Hershey, PA: IGI Global; 2018. p. 71-95. doi: 10.4018/978-1-5225-2624-7.ch004.
18. Nigerian Universities Commission (NUC). Private Universities Account for Less Than 6% of Nigerian Students Population. Premium Times; 2018. Available from: https://www.premiumtimesng.com/news/more-news/275650-private-universities-account-for-less-than-6-of-nigerian-students-population-nuc.html. Accessed July 6, 2020.
19. Chia TI, Oyeniran OI. Determining the anatomy of anatomy educators. J Taibah Univ Med Sci. 2020;15(2):102-9. doi: 10.1016/j.jtumed.2020.03.001.
20. Chia T, Oyeniran OI. Anatomy education in Nigeria: challenges and prospects. J Contemp Med Educ. 2019;9(3):61-5.
21. Juma C, Moyer E. Broadband internet for Africa. Science.

2008;320(5881):1261. doi: 10.1126/science.1161105.

22. Aduwa-Ogiegbaen SE, Iyamu EO. Using information and communication technology in secondary schools in Nigeria: problems and prospects. J Educ Technol Soc. 2005;8(1):104-12.

23. The Edvocate. The Absence of Internet at Home is a Problem for Some Students. 2017. Available from: https://www.theedadvocate.org/the-absence-of-internet-at-home-is-a-problem-for-some-students/. Accessed July 5, 2020.

24. Le VPN Blog. Top 10 Countries with the Fastest Internet Speeds. 2018. Available from: https://www.le-vpn.com/top-countries-fastest-internet-speeds/. Accessed July 5, 2020.

25. noun.edu.ng (homepage on the internet). National Open University of Nigeria (NOUN). Brief Historical Background of NOUN. Available from: https://www.nou.edu.ng/page/university-you-0. Accessed July 3, 2020.

26. Asunka S. Online learning in higher education in sub-Saharan Africa: Ghanaian University students' experiences and perceptions. International Review of Research in Open and Distributed Learning. 2008;9(3):1-23. doi: 10.19173/irrodl.v9i3.586.