The Need for Virtual Learning in Nigerian Tertiary Institutions of Learning in the Face of COVID-19 and After

Whyte Stella Tonye

Abstract

The global world woke up facing the reality of the COVID-19 pandemic but where is Nigeria tertiary institutions in virtual learning at the face of this pandemic and after. This study discusses the need for the adoption and implementation of virtual learning in Nigerian tertiary institutions. Recommendations to adopt virtual learning during and post COVID-19 were also discussed. An exploratory qualitative research method was used to explore what constitutes virtual learning and the need for its implementation in Nigeria. Educational loss cannot be statistically estimated during a global shut down because of its social value as would be accounted for in decline in humanity and economy. In primary and secondary institutions, and to higher institutions, there is a complete stoppage of the face-to-face method of teaching and learning due to the COVID-19 pandemic. The seeming fire brigade approach interventions being deployed in some States result from no initial functional learning applications on the ground. The unscientific mode of content delivery in many institutions of learning is outdated even in a dynamic world and moving to the G-5 technology. Teachers still in their archaic manner, go to the classrooms with outdated learning materials, and deliver the contents in that form. Unpreparedness to the future of learning in Nigeria has compromised the kind of emergency the world is now facing.

Index terms— virtual learning, covid-19 pandemic.

1 Introduction

irtual learning (VL) has recently emerged as an important topic in education theory and practice. In theory, a well-maintained VL environment should enable students of all learning styles to receive the best possible education, which in a way, is not in an exclusively lecture-based environment, and tends to be focused on auditory learners only (Weller, 2010). Virtual learning is a learning experience enhanced through the utilization of computers or the Internet both outside and inside the educational organization (Adeyeye, Afolabi, & Ayo, 2014). Means, Toyama, Murphy, Bakia, and Jones (2010) defined virtual learning as the use of the Internet, computer software, or both to deliver instruction to students eliminating and minimizing the need for students and lecturers to sit in a traditional classroom.

The wake of what is one of the greatest threats to global education is theCOVID-19 pandemic. The world has braced itself for the pandemic of COVID-19 caused by the novel virus SARS-CoV-2(1) also referred to as coronavirus. The World Health Organization (WHO) defined coronavirus as an infectious disease caused by a newly discovered virus (Obiakor, & Adeniran, 2020). The virus spreads primarily through droplets of saliva or discharge from an infected person's nose when coughs or sneezes. The pandemic is causing more than 1.6 billion children and youth to be out of school in 161 countries (The World Bank, 2020). This number is close to 80% of the world's enrolled students. As the surge of global pandemics continues to have its toll on the world's educational system, the developed countries are resorting to virtual or online learning and teaching to keep their schools and students afloat. Most African countries or the underdeveloped countries are yet to implement online learning fully.

This pandemic situation seriously affects learners, especially in developing and underdeveloped countries that are not prepared or just switched to online learning that has only a little knowledge about the new learning process. For this reason, education is impaired. Learning cannot stop because of the COVID-19 pandemic. Learning is not in its nature static but dynamic. The drivers of knowledge are not prepared for the challenge of virtual learning and are rocked down by COVID-19. The reality that our education system is confronted with this pandemic and affecting learners making them vulnerable to crime and other unruly behaviors', it is important that all stakeholders in education look inward and face the reality of virtual learning in Nigeria (Obiakor, & Adeniran, 2020). Classes should be delivered and assessed online with computers, mobile phones, and other learning devices with a complete need for blended learning as an urgent matter for national policy.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) report on the pandemic impact on education also estimated that 87% of the world's students, which is 1.5 billion learners, have been affected by the lockdown and school shutdown (Ogunode, Niyi, Abigeal, & Lydia, 2020). More than 180 countries have shutdown schools nationwide. This shutdown of schools has caused the reduction of foreign education, academic calendar disruption, cancellation of local and international conferences, teaching and learning gaps, and reduction of workforce in the educational institutions with reduction of budgets of higher education. Burgess and Sievertsen (2020) submitted that the global lockdown of education institutions had caused significant disruptions in students' learning; internal and external assessments.

The Digital 2020 Global Overview Report states that about 60% of Nigerians are not connected to the Internet (Adeoye et al., 2020), while about 169.2 million people -83% of Nigerians have access to mobile phone connections while 50% around 84.5 million people live in urban areas. The proportion of the population with access could be skewed towards both high socioeconomic households and urban households. Most of who are private school students who already have a learning advantage over their public school peers. Children with poor backgrounds tend to have less access to internet connectivity, computers, and other devices and reside in rural areas speak more of local languages than English making ICT-learning uptake limited. The inequity to access ICT-based learning will promote the existing disparities in learning outcomes along socioeconomic lines and the urban-rural divide (Obiakor, & Adeniran, 2020). Students in the rural areas will continue to fall behind with the persisting pandemic raising challenges to educational inequality. The limited access to the Internet and power supply poses a great challenge to online learning for most students in Nigeria.

2   II.

3   Methodology

The paper uses the exploratory qualitative research method with Albert Bandura's Social Learning Theory as the foundational concept. Albert Bandura's Social Learning Theory states that people learn from one another through observation, imitation, and modeling. The theory is a bridge between behaviorist and cognitive learning theories since it encompasses attention, memory, and motivation. The key concept, in theory, is that people learn by observing others' behavior, attitudes, and outcomes. Social learning theory explains human behavior between cognitive, behavioral, and environmental influences during continuous mutual interaction. According to Bandura (1976), the behavior of most humans is learned by observation through modeling. By observing others, an idea is formed by how new behaviors are performed, whose coded information serves as a guide for action at a later occasion. Budara's (2019) research specified how to develop resilient beliefs in one's efficacy and explains the cognitive, motivational, affective, and decisional mechanisms through which self-efficacy beliefs produce their effects. Koch (2019) emphasized that the Social cognitive theory thrives on the advancement of new technologies and provides innovative methods to create social learning environments. One aspect of technology is the ability to interact and observe others. Through the internet, people are now continuously learning and constructing meaning from communications within their communities.

In social learning theory, Albert Bandura (1976) agrees with the behaviorist learning theories of classical conditioning and operant conditioning. However, he adds two important ideas: First that mediating processes occur between stimuli & responses and secondly, behavior is learned from the environment through the process of observational learning. The human school of thought argues that education should focus on the needs of the individual learner and that the important thing is the aspects of personal and emotional growth (Aubrey & Riley, 2019). The social learning theory of Bandura stresses the importance of observing and modeling the behaviors, attitudes, and emotional reactions of people. It involves attention, memory and motivation, social learning theory spans of both cognitive and behavioral frameworks. According to Koch (2019), the social cognitive theory is derived from constructing meaning and knowledge from social influences.

4   III.

5   Aim and Objectives

This article was motivated by the problems confronting students and teachers in the traditional institutions of higher learning in Nigeria, especially in this period of COVID-19. This paper's objective is to employ policymakers to use this unique opportunity to explore how the emerging reality of the COVID-19 pandemic could birth new architecture to tackle the education crisis of out-of-school children and acquire quality education. The

fundamental critical need for adopting technology into learning and the urgency to bridge educational divides currently existing with a shift in education infrastructures (Ekwonwune & Oparah, 2020). This paper discusses the need for virtual learning, identifies and presents the adoption challenges, and opportunities. This study is therefore aimed at addressing the need for adoption and implementation of virtual learning Nigerian tertiary institutions with the objectives of developing a virtual learning platform for Nigerian tertiary institutions and others, for learners (students) and lecturers (Faculties) to be able to use the online platforms and to administer lectures to registered students based on the approved curriculum.

IV.

6 Literature Review a) Impact of COVID-19 Pandemic on Education System

The landscape of learning in Nigeria has been disrupted by the COVID-19 pandemic, limiting how students can access learning across the country. While several private schools have begun to initiate distance learning programs, and taking advantage of the myriad of ICT-learning opportunities provided by the international community, the government limited by funds and persistent deficiencies in planning, is yet to announce any official plans for providing distance learning opportunities, especially for public schools (Ogunode et al., 2020). The implication being that these students in public schools currently have no formal learning plans and could be missing learning altogether. For Nigeria, the reality is simple -while the school closures are necessary to curtail the spread of the COVID-19 virus, until the ban on movement is lifted and schools are reopened, majority of students will not be learning. For Nigeria, the reality is simple -while the school closures are necessary to curtail the spread of the COVID-19 virus, until the ban on movement is lifted, and schools are reopened, the majority of students will not be learning. Leaving more kids behind -A longerterm impact of these school closures would deepen educational inequality (Ogunode et al., 2020). While some international development partners (UNESCO, for example) have put together and provided access to ICTbased resources to foster learning, uptake will depend largely on the level and of digital and Internet access, and language accessibility. According to the Global Overview Report published in January 2020, about 60 percent of Nigerians are not connected to the Internet (Digital 2020). The statistics for mobile phones, which could also be used as a learning medium, are more hopeful.

7 b) Virtual learning history in Nigeria

Technologies are used in today's society as an essential means of enhancing learning and enabling students' engagement in their respective programme of study. Ekwonwune and Oparah (2020) emphasized using a virtual learning environment for teaching and learning provision is one concept that is changing the frontline acquisition of knowledge in the current arena of education. Developed countries facilitated the establishment of information, communication, and technology (ICT) -based University in education known as Virtual Universities (Anekwe, 2017). In Nigeria, only very few conventional universities take up academic activities through one form of virtual learning or the other. For some learning institutions, the desire to embark on virtual learning is still a mirage due to their weak technological infrastructure. According to Ajadi et al. (2008), the National Open University of Nigeria (NOUN) was established in July 1983, by an Act of the National Assembly. NOUN is the first distance learning tertiary institution in Nigeria by the Federal Government, acknowledging that the growing demand for education cannot be met by the traditional brick and mortar classroom method of educational delivery was initially suspended.

The emerging developments in ICT's field necessitated the reactivation of the suspended NOUN in 2002 (Ajadi et al., 2008). Few government institutions like the University of Ibadan, Obafemi Awolowo University, University of Benin, University of Abuja, University of Lagos, National Open University of Nigeria, among others, have facilities for online learning. Several challenges face virtual learning in Nigeria educational institutions, although the number seems very high compared to developed countries due to inadequate IT infrastructure, funding, and shortage of power supply to mention a few (Ajadi et al., 2008). Some private educational institutions in Nigeria have started the use of virtual learning to improve their educational status.

There is an urgent need for higher education providers, especially the government, to develop adequate technological facilities and services like virtual learning environments and virtual library systems for students' accessibility, learning, and to meet with their educational responsibilities (Nwabude, Ogwueleka, & Irhebhude, 2020). Faculty consultation with students in accessing these technological facilities will enhance standards of usability. Several institutions in the developed and some developing countries have adopted the use of a virtual learning environment (VLE) platform to mediate and support teaching and learning in tertiary institutions (. With its commitment to improving the Information and Communications Technology (ICT) skills of its citizens, the Nigerian government targets the higher institutions of learning to bridge the digital divide. The government promised to provide facilities and all necessary infrastructures to promote ICT and e-learning with the new Partnership for Africa's Development (NEPAD) in achieving sustainable development in the 21st century.

8   c) COVID-19; the need for virtual learning now and after

For the education system that is already fragile, the COVID-19 pandemic has posed unprecedented severe challenges on the government, scholars, and parents highlighting and amplifying Nigerian's weak education system (Ogunode, Niyi, Abigeal, & Lydia, 2020). As the nation continues to struggle with these challenges, it is important then to ask: Can the Nigerian educational system adapt to the new system designed to the changing world? In the face of COVID-19 pandemic and after, does the nation have the ability to ensure the implementation of online learning? This will depend largely to the availability of technology, adequate power supply, infrastructure, and prepared stakeholders for alternative learning programs.

The virtual classroom is becoming more popular as technology improves, hence, the need for institutions and students to turn to online courses and classes, especially to enable continuity in learning in this period of state, national, or global clampdown. Virtual or online courses must be created with the same care and expectations as the brick and mortar one (Ogunode et al., 2020). Simultaneously, virtual classrooms could keep students engaged with the use of online material and are passionate about subject matters as instructors and lecturers employ ways for students to interact with one another (Nwabude et al., 2020). Student performance with virtual learning identifies technical, procedural, and operational skills as critical. Falloon's (2011) study suggests that educators and course designers need to embed strategies into their online courses to enable students to develop these skills to gain substantial benefit from the virtual classrooms. Most students still crave interaction with their lecturers and fellow students, even though they cannot physically but virtually. Discussion forums as a natural solution should be created and facilitated by posing discussion questions, quizzes, drills, and assignments for students to respond as timed and graded by the lecturer during compulsory holidays or clampdown like the COVID19 in session (Adeoye et al., 2020). Students could also be tasked in virtual group work to collaborate on projects or seminars, enabling them to meet and exchange ideas with their peers while they interact and network without actually meeting in a classroom and observe physical distancing.

In a virtual classroom, where a web-based multimedia virtual learning system used, diversity the text, content, and content media should not be muted assuming one-dimensional online coursework but building portals for multimedia exploration. Some online courses are created only as a class website for posting assignments and logging in to take tests and quizzes (Ekwonwune & Oparah, 2020). One significant impact of the virtual classroom for learning is the use of the web for multiple media formats. Classes and lectures can be taken by streaming live videos, listen to audio, and perusing photographic archives relating to the course. A variety of formats are incorporate into the online classroom as a matter of importance to keep contents fresh and appealing to the sensory knowledge of learners (Adeoye et al., 2020). The Web-based course, as an advantage to the traditional classroom for a virtual classroom learner, enables the learner to likely respond to visual images than a form of straight text.

It is a common misconception that students who take online courses do so to avoid the rigor and workload of the brick and mortar or traditional classroom. In many cases, this has been proved not to be accurate; students choose online classes because they want to explore, be creative, and be challenged. Virtual learning encourages a better learning environment when given a project to complete within the curriculum. It enables lecturers to convey information more effectively and efficiently to their students promptly by introducing different learning styles for students and encouraging them with more interactive sessions. The convergence of media, the rapid development of the World Wide Web, networks, and mobile tools has open up new opportunities for learning by allowing students to be more mobile-connected and digitally equipped (Ekwonwune & Oparah, 2020). This means more and different learning methods are taking place outside the traditional classroom, indicating that as our environment is becoming more flexible and unpredictable, so is our learning style.

9   Forms of Virtual learning:

? Computer-Based is when soft wares provide instruction on computers or servers where they are installed and not by a teacher s is not provided by a teacher. ? Internet-Based is when the software provided delivers instruction through the web stored on a remote server. ? Remote Teacher Online is when instructions are provided by a teacher who is not physically present with the student but interacts through media as online video, online messaging, online forums, email, and webinars through the Interment. Also, quality online learning programs are highinput operations, requiring both times to develop and significant investments to run. Many are worried that the rapid shift to remote learning will tarnish the reputation of online education. However, this does not mean that the COVID-19-necessitated move to universal remote teaching will be all bad for student learning. The biggest future benefits of virtual instruction will come after our teachers and students return to their physical classrooms. The necessity of teaching and learning with asynchronous (Canvas, Blackboard, D2L) and synchronous (Zoom) platforms will yield significant benefits when these methods are layered into face-toface instruction (Ekwonwune & Oparah, 2020).

Personal computers and the Internet have revolutionized the entire sectors of our society. Facebook, Twitter, YouTube, Skype, boom, zoom, and other online communications media allow billions of people around the world to share ideas in seconds and minutes at a meager cost. People are becoming more aware of how computers and Internet technology are transforming the way students learn. This learning through the Interment as an emerging education paradigm is called virtual learning. This learning style, as opined by **??**eans et al. (2009), is in so many ways potentially improving student achievement, educational resource access, and education cost-effectiveness.

10   d) The Challenges of adoption of Virtual Learning in

Nigeria Schools are shut down with no academic improvement or challenge. Other problems encountered by students include; shortage of power supply, inadequate funding, lack of technological infrastructures, incompetent teaching, and learning facilities to aid virtual learning in the tertiary institutions in Nigeria. If challenges are turned into opportunities, then dire, could be a unique opportunity to turn around Nigeria's education system. This could be an opportunity for a turning point, to reshape and build resilience in the educational system.

Poor budgetary allocation, corruption, and unpreparedness are challenging factors to the inability of many public tertiary institutions to embrace virtual learning even during this global pandemic in Nigeria. The ten years (2010-2019) budgetary allocation for the Nigerian education sector as seen in Table 1 shows that it is inadequate and below UNESCO recommendation of 15%-20% funding for developing countries like Nigeria (Adeoye, Adanikin, & Adanikin, 2020). This given budgetary allocation may not allow the growth of virtual learning as it is deficient. The statistics are shown in Table1establishes that as at 10year period, the education sector less as recommended by UNESCO such as ICT, internet access, adequate power supply, training, and others to enable virtual learning to grow in Nigeria (Adeoye et al., 2020). Ololube (2016) emphasized that the education funds misappropriated and mismanaged is a significant cause for the recommends adequate funding for public institutions of higher learning.

Other challenges arise due to the varying degree of unpreparedness of both the government and the institutions, lack of infrastructures, corruption, and policy issues in the Nigerian education sector. The COVID-19 outbreak opened up the importance of online education and distance learning; however, only a small fraction of the world's education adopted teaching online. Developed economies such as Canada, the United Kingdom, and the United States have also experienced a decline in their educational revenue as a result of the pandemic as international students either quit their studies or went back home (Adeoye et al., 2020). The consequence is more on schools do not use or have the online learning platform. However, some universities particularly the private universities in Nigeria have embraced e-learning to ensure that their academic calendar is not totally distorted. Challenges of e-learning in Nigeria E-learning is still confronted with a lot of challenges in Nigerian Universities especially during this COVID-19 pandemic as this is the only medium available for learning. One of these challenges is epileptic power supply in Nigeria especially in rural areas as there is no guarantee of at least two hours power supply at a stretch. The irregular power supply in Nigeria is seen as an age-long problem which has affected almost every aspect of Nigeria economy with no exception to the educational sector. This unstable poor power supply has caused a major setback for technological advancement of many universities in Nigeria. Another major obstacle to e-learning in Nigeria is tied towards the high cost of Internet data services (Adeoye et al., 2020). The internet service required to connect to this e-learning platform sometimes requires a lot of data. The cost of purchasing the data bundle is so high which might be difficult for both students and lecturers. The cost of accessing the Internet in Nigeria is still on the high side. Hence some students find it a challenge to afford. The cost of a personal computer (PC) and Laptop are still very high in Nigeria.

V.

11   Conclusion

Virtual learning is seen as the catalyst that will drive learning; hence, it should become an integral part of learning in Nigerian tertiary institutions. Furthermore, the quest for virtual learning at this period will increase the need to break barriers in learning and open up access to better education. In Nigeria presently, due to the COVID-19 pandemic, some institutions of learning, especially the private ones, are beginning to organize online forums and classes Adeoye et al., 2020). This initiative is commended, but the euphoria should outlast the COVID-19 era. There is an urgent need to embed technology into the classroom for adaptive learning and personalized learning with minimal teacher involvement to deliver better learning experiences. This crisis period is an opportunity to invest in technology in both private and public schools (Owusu-Fordjour, Koomson, & Hanson, 2020).

The government should encourage publicprivate educational partnerships and collaborate to drive technological innovation. Bridge the digital divide private and public schools ensuring that the cost of technology adoption is low. An intentional and concerted effort must be provided by the government to have a lasting impact on education with a change that would solve both pandemics and after pandemic driven challenges. Universities should adopt virtual learning, and these e-learning platforms are in exhaustive. They include, Zoom, Google hangout, Skype, Google classroom, Adobe captivate, Blackboard learn amongst others.

12   VI.

13   Recommendation

Virtual learning has fast become a means of fall back for the traditional brick and mortar schools for several students to grow as a result of technological innovations and sophisticated instructional delivery programs it provides. Students lack time-management skills and therefore are not personally motivated and thus should be given the support to succeed in a virtual environment (Ekwonwune & Oparah, 2020). After the Covid-19 pandemic, virtual learning should be recognized as core to every school's plan for institutional resilience and academic continuity, given that the use of virtual learning does not require a large building or extensive

student support services. Therefore, it will be easy to say that virtual learning programs would deliver the same instruction level for a fraction of the cost to increase student learning abilities and knowledge in our Nigerian universities.

The research recommends the adoption and implementation of virtual learning in Nigerian to improve knowledge and aid the educational process during and after the COVID-19 pandemic. The government should immediately embark on the integration of all higher institutions into online education (Burgess & Sievertsen, 2020). Higher institutions of learning in rendering assistive technology with the help of management should enhance learning and teaching methods to be more accessible to a wide range of students.

The government should adopt virtual learning through low-cost technology to reach the vulnerable population in Nigeria. This will require taking multiple learning infrastructures such as television, radio, chat, and SMS-based mobile platforms readily available to the poor and vulnerable (Ekwonwune1 & Oparah, 2020). Over 80% of the adult population has access to communications and phones which could reach most children left behind in the remote areas with targeted instructions via these mediums. Other online platforms offering personalized learning would require a central planner from the three tiers of government and the private sector (Adeoye et al., 2020)

Year	Budget (₦Trillion)	Educational Allocation (₦ Billion)	Percentage of Budget (%)
2010	5.160	249.09	4.83
2011	4.972	306.30	6.16
2012	4.877	400.15	8.20
2013	4.987	426.53	8.55
2014	4.962	493.00	9.94
2015	5.068	392.20	7.74
2016	6.061	369.60	6.10
2017	7.444	550.00	7.38
2018	8.612	605.80	7.03
*2019	8.830	620.50	7.03
Total	**60.973**	**4413.17**	**7.24**

Figure 1: The

1

Source: Adeoye et al. (2020)

Figure 2: Table 1 :

Figure 3:

13   RECOMMENDATION

295 [ ] , 10.1177/174569161. https://doi.org/10.1177/174569161

296 [Ekwonwune and Oparah ()] , E N Ekwonwune , C C Oparah . 2020.

297 [A Multimedia Based Virtual Learning System: A Panacea for Nigerian Tertiary Institutions Circuits and Systems]
298 'A Multimedia Based Virtual Learning System: A Panacea for Nigerian Tertiary Institutions'.
299 10.4236/cs.2020.111001A. https://doi.org/10.4236/cs.2020.111001A *Circuits and Systems* 11
300 (1) p. 9.

301 [Bandura ()] 'Applying Theory for Human Betterment'. A Bandura . 10.1177/1745691618815165. *Association for*
302 *Psychological Science* 2019. 14 (1) p. .

303 [Adeoye et al. ()] 'COVID-19 and E-Learning: Nigeria Tertiary Education System Experience'. I A Adeoye , A
304 F Adanikin , A Adanikin . *International Journal of Research and Innovation in Applied Science (IJRIAS)*
305 2020. 94 p. 28.

306 [Obiakor and Adeniran ()] *Covid-19: Impending Situation Threatens to Deepen Nige-*
307 *ria's Education Crisis. Centre for the study of the economics of Africa,*
308 T Obiakor , A Adeniran . https://media.africaportal.org/documents/
309 COVID19-Impending-Situation-Threatens-to-Deepen-Nigerias-Education-.pdf 2020.

310 [Ajadi et al. ()] 'E-Learning and Distance Education In Nigeria'. T O Ajadi , I O Salawu , F A &adeoye .
311 https://files.eric.ed.gov/fulltext/ED503472.pdf *The Turkish Online Journal of Educational*
312 *Technology -TOJET* 2008. 7 (4) .

313 [Ogunode et al. ()] 'Education Fund Misappropriation and Mismanagement and the Provision of Quality Higher
314 Education in Nigeria'. N Ogunode , J Niyi , I Abigeal , A E &lydia . http://www.ijsre.com *International*
315 *Journal of Scientific. Research in Education* Ololube, N. P. (ed.) 2020. 2016. 9 (4) p. . (Impact of COVID-19
316 on the Higher Institutions Development in Nigeria)

317 [Means et al. ()] *Evaluation of Evidence-Based Practices in Online Learning,* M B Means , Y Toyama , R Murphy
318 , M Bakia , K Jones . http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/
319 finalreport.pdf 2010.

320 [Falloon ()] *Exploring the virtual classroom: What students need to know (and teachers should consider),* G
321 Falloon . https://hdl.handle.net/10289/7238 2011. 7 p. . (Journal of online learning and teaching)

322 [Anekwe ()] 'Impacts of Virtual Classroom Learning on Students' of Nigerian Federal and State
323 Universities'. J U Anekwe . http://www.idpublications.org/wp-content/uploads/
324 2017/03/Full-Paper-IMPACTS-OF-VIRTUAL-CLASSROOM-LEARNING-ON-STUDENTS%E2%80%
325 99-OF-NIGERIAN.pdf *European Journal of Research and Reflection in Educational Sciences* 2017. 5
326 (3) p. 43.

327 [Burgess and Sievertsen ()] 'Schools, skills, and learning: The impact of COVID-19 on Education'. S Burgess
328 , H H Sievertsen . https://voxeu.org/article/impact-covid-19-education *Electronic Research*
329 *Journal of Social Sciences and Humanities* 2020. 2 (2) p. .

330 [Koch ()] *Social Cognition and Social Learning Theories of Education and Technol-*
331 *ogy,* C Koch . https://sites.google.com/a/boisestate.edu/edtechtheories/
332 social-cognition-and-social-learning-theories-of-education-and-technology?tmpl?
333 2019.

334 [Bandura ()] *Social learning theory. Englewood Cliffs,* A Bandura . 1976. Prentice Hall.

335 [Owusu-Fordjour et al. ()] *The Impact of Covid-19 on Learning-The Perspective of The Ghanaian Student,*
336 C Owusu-Fordjour , C K Koomson , D Hanson . https://www.oapub.org/edu/index.php/ejes/
337 article/view/3000 2020. 7.

338 [Nwabude et al. ()] *The Use of Virtual Learning Environment and the Development of a Customised Framework/*
339 *Model for Teaching and Learning Process in Developing Countries,* A A R Nwabude , F N Ogwueleka , M
340 Irhebhude . 10.5923/j.edu.20201001.01. https://doi:10.5923/j.edu.20201001.01 2020. 10 p. .

341 [Aubrey and Riley ()] *Understanding and Using Educational Theories,* K Aubrey , A Riley . 2019. (2nd Edition,
342 SAGE)

343 [Weller ()] 'Virtual learning environments: Using, choosing and developing your VLE'. M Weller . 10.1111/j.1467-
344 8535.2009.01026_11.x. https://doi.org/10.1111/j.1467-8535.2009.01026_11.x *British Journal*
345 *of Educatuion* 2010. 40 (6) p. .

346 [Adeyeye et al. ()] 'Virtual Learning in Nigeria Universities: A Panacea for Enhanced Academic Standards'. O
347 M Adeyeye , I T Afolabi , C K Ayo . 10.31686/ijier.vol2.iss2.144. https://doi.org/10.31686/ijier.
348 vol2.iss2.144 *International Journal for Innovation Education and Research* 2014. 2 (4) .

349 [World Bank Education and COVID-19 ()] *World Bank Education and COVID-19,* https://www.
350 worldbank.org/en/data/interactive/2020/03/24/world-bank-education-and-covid-19
351 2020.