From Debate to Action: Covid-19 Lockdown and Changing Paradigm in Nigerian Online Higher Education

By

Abdalla Uba Adamu
National Open University of Nigeria
auadamu@yahoo.com

and

Adewale Adesina
National Open University of Nigeria
aadesina@noun.edu.ng

Abstract

The Covid-19 pandemic of 2020 saw unprecedented disruption of education systems across the globe. Countries imposed immediate social lockdowns to prevent the spread of the disease in crowded situations. After a few months of 'stay safe, stay at home' government advocacy, it became clear that unless new strategies of delivery were embarked upon, education systems could eventually collapse. This led to the emergence of the 'New Normal' in which suddenly little used online technologies were dusted off and new materials loaded into them and beamed to students from those in elementary schools to university students. The online technologies became easier to deploy due to the commodification of technology, particularly Smartphones among Gen. Z. populace of every country. The National Open University of Nigeria, the premier Open and Distance Learning institution in Nigeria, and the largest in Africa with over 590,000 students spread across the entire country in 103 study centres, approached the challenges posed by the Covid-19 lockdown in two innovative ways. First, it introduced remote proctoring of examinations in the country for the first time on an on-demand basis, making it optional to students since the hardware

requirements – a laptop and IGB of data – may not be possible for all students. A total of 5,271 students out of 130,000 who registered for in-person examinations before the lockdown opted for the online examination. The second strategy was the conversion of selected courseware materials from flat PDF files to interactive Virtual Learning Environment (VLE) self-automated lectures. This involved an online training of 158 academic staff hosting packages at Blue Host with Moodle were purchased for the staff and each tasked with developing a VLE class for their course. Also, 732 senior administrative staff and 1,333 'junior to mid-level staff members were trained on the essentials and practical operations of VLEs in order to provide critical tactical support to academic staff and students. These innovative approaches have provided powerful platforms for sustaining and improving on teaching and learning activities during the global pandemic across the country and the impact is likely to continue for the foreseeable future. This paper is an empirical study of the dynamics of implementing Open and Distance Learning in a challenging health lockdown situation in Nigeria. It uses a combination of theoretical insights and empirical data from implementation of 'New Normal' online strategies and advocates a movement away from debate to action in improving the quality of delivery systems in African higher open and distance education.

Keywords: VLE, Proctoring, lockdown, Covid-19, ODL, courseware, online learning

Abstrait

La pandémie de Covid-19 de 2020 a entraîné une perturbation sans précédent des systèmes éducatifs à travers le monde. Les pays ont imposé des confinements sociaux immédiats pour empêcher la propagation de la maladie dans les situations de <u>surpeuplement</u>. Après quelques mois de plaidoyer gouvernemental « restez en sécurité, restez à la maison », il est devenu clair qu'à moins que de nouvelles stratégies de prestation ne soient mises en place, les systèmes éducatifs pourraient éventuellement s'effondrer. Cela a conduit à l'émergence de la nouvelle normalité « New Normal » dans laquelle des technologies en ligne peu utilisées ont été soudainement dépoussiérées et de nouveaux matériaux y ont été chargés et transmis aux étudiants, des écoles élémentaires aux étudiants universitaires. Les technologies en ligne sont devenues plus

faciles à déployer en raison de la marchandisation de la technologie, en particulier des Smartphones parmi la population de la génération Z. de tous les pays. Le National Open University of Nigéria, la première institution d'enseignement ouvert et à distance au Nigéria et la plus grande d'Afrique avec plus de 590 000 étudiants répartis dans tout le pays dans 88 centres d'études, a abordé les défis posés par le confinement de Covid-19 de deux manières innovantes. . Tout d'abord, il a introduit la surveillance à distance des examens dans le pays pour la première fois sur demande, la rendant facultative pour les étudiants car les exigences matérielles - un ordinateur portable et un <u>1Go</u> de données - peuvent ne pas être possibles pour tous les étudiants. Un total des 5 271 étudiants sur 130 000 qui se sont inscrits aux examens en personne avant le confinement ont opté pour l'examen en ligne. La deuxième stratégie consistait à convertir des supports de cours sélectionnés à partir de fichiers PDF plats en cours auto-automatisés interactifs dans un environnement d'apprentissage virtuel (VLE). Cela impliquait une formation en ligne de 158 membres du personnel académique hébergeant des packages chez BlueHost avec Moodle ont été achetés pour le personnel et chacun a été chargé de développer une classe VLE pour son cours. En outre, 732 membres du personnel administratif supérieur et 1.333 membres du personnel de niveau junior à intermédiaire ont été formés sur les opérations essentielles et pratiques des VLE afin de fournir un i soutien tactique essentiel au personnel académique et aux étudiants. Ces approches innovantes ont fourni de puissantes plateformes pour maintenir et améliorer les activités d'enseignement et d'apprentissage pendant la pandémie mondiale à travers le pays et l'impact devrait se poursuivre dans un avenir prévisible. Cet article est une étude empirique de la dynamique de la mise en œuvre de l'apprentissage ouvert et à distance dans une situation difficile de confinement sanitaire au Nigeria. Il utilise une combinaison d'idées théoriques et de données empiriques issues de la mise en œuvre de stratégies en ligne nouvelle normalité « New Normal » et préconise un passage du débat à l'action pour améliorer la qualité des systèmes de prestation dans l'enseignement <u>supérieur ouvert</u> et à distance en Afrique.

Mots-clés: VLE, surveillance, confinement, Covid-19, ODL, didacticiels, apprentissage en ligne

Introduction

The COVID-19 pandemic affected more than 1.5 billion students and youth in 192 countries across the globe due to school closures and mitigation strategies implemented to curb the pandemic (UNESCO, 2021). In the past, there have been significant doubts and debates as to whether online learning could succeed in a low-income country like Nigeria. The results of a joint UNESCO-UNICEF-World Bank survey (July-October 2020) revealed that among low-income countries, only 20 per cent considered remote or online learning sufficient to account for official school while 70 per cent of lower-middle-income, 82 per cent of upper-middle income and 86 per cent of high-income countries perceived it to be a valid learning alternative to official school. In Nigeria the disease first appeared on 27th of February 2020 (NCDC, 2021), and within a month, the country was in a total lockdown to curtail the spread of the disease.

The panic that led to the lockdown eventually waned and the world became aware that life should not remain at standstill – that it was time for humanity to utilize its vast experience in technology and sustain a modicum of normality using alternative methods of engagement with families, colleagues – and students. Thus, the sudden burst of energy in activating or exploring the online remote learning pathway that had hitherto been seen as appealing to only specialized institutions. This chapter explores how the premier Online University in Nigeria, the National Open University of Nigeria (NOUN) approached the challenges posed by the COVID-19 lockdown using innovative strategies and actions, specifically a multimodal delivery system, including a combination of on-demand online examinations, and virtual experiences in creating remote learning environments. The objectives of this paper are to:

- analyse how COVID-19 led to the creation of a transformation agenda in NOUN
- examine the strategies and methods adopted in ensuring continuity and inclusive quality learning
- evaluate some of the challenges faced, solutions provided and lessons learnt during the COVID-19 crisis
- explore how to strengthen the capacities of University staff (Lecturers, Administrative staff, Junior administrative staff, external facilitators) to adjust to the new normal in digital learning.

In broad terms, online learning refers to education that takes place over the internet, sometimes called e-learning (Salmon, 2003; Mason & Rennie, 2006; Barrett et. al, 2012; King & Boyatt, 2014; Andersson & Grönlund, 2017; Sinecen, 2018; Burgos, 2020; Yang, 2020; Adarkwah, 2020; Isais, Sampson & Ifenthaler, 2020). It describes any learning that takes place across distance and not in a traditional classroom. The reasons advanced for the skepticism towards online learning include the low availability of IT infrastructure such as Internet connectivity, computing devices, weak technology knowledge by lecturers and students and erratic electricity supply (Anderson & Ake, 2009; Forsyth, Pizzica, Laxton & Mahony, 2010; Ramos, Tajú & Canuto, 2014; Kafyulilo, 2015). However, the pandemic has compelled universities and institutions across the world to take a giant step from repressing arguments to deliberate and concrete actions (Stephen, Dyer & Kyle 2020, Isaias, Sampson & Ifenthaler 2020, Gesu & Gonzalez 2020).

In the light of the lockdown around the world in 2020, many universities adopted strategies to sustain learning using various technologies. For instance, in India, Rajhans, Memon, Patil & Goyal (2020) reported a seamless transition to online learning in optometry education among 78 optometry educators using multiple devices (desktops, laptop and mobile phones) to ensure that learning was sustained during the lockdown.

The literature so far revealed mostly prescriptive measures, rather concrete empirical measurements of steps taken and impacts measured and future direction charted. For instance, Rawani & Singh (2020) provided what seemed to be a roadmap on combating educational malaise occasioned by the pandemic lockdown in India. Dhawan (2020) suggests that online learning is a panacea for the pandemic lockdown learning, and 'online courses should be made dynamic, interesting, and interactive (p. 9), but without giving specific empirical details of how this could be achieved. Adnan & Anwar (2020, p.47) conducted 'an online survey technique…to gather data about the attitudes of Pakistani higher education students regarding online teaching' using 64 students, but the study merely prescribes, rather than describes, what to do.

In China, where the Coronavirus leading to the Covid-19 pandemic

originated from in 2019 before rapidly spreading across the globe (Osler 2019), the government came up with an educational emergency management policy tagged "Suspending Classes Without Stopping Learning" (Zhang et. al., 2020), which merely prescribes policy measures – some already in place – in continuing education across all tiers in a lockdown. Burgos *et. al.* (2021) edited a volume of essays that provide perspectives on general context of remote online learning under lockdown situations with many country case studies from around the world – except Africa.

In Africa, the Association of African Universities (AAU) teamed up with eLearn Africa (which, according to their marketing blurb on their website, is 'Africa's trusted source for online learning') and Wiley Education services in April 2020 to provide support for African universities wishing to migrate to online learning. It turned out to be another marketing ploy without any concrete considerations of the existing capacities of African universities to provide remote learning within the context of their individual regulatory mechanisms, capabilities or access to resources by students. Thus, instead of empowering African universities to develop their bespoke targeted solutions to pandemic lockdown, regulators tended to focus on a marketing bandwagon to provide cookie-cutter solutions to clearly variegated learning systems and learners. This was different from the approach taken by NOUN to combat the 'dead zone' of the pandemic lockdown.

NOUN's Transformation Agenda

National Open University of Nigeria (NOUN) is Federal Republic of Nigeria's flagship single mode Open and Distance Learning (ODL) institution. It was established in 1983, but considered too demanding in terms of the technology to make it a success, and was thus suspended in 1984. However, it was resurrected in 2002 and given a new, more technological look. By 2021, it had over 590,000 students spread around 103 study centres across the country. The pre-2002 era got rid of the reel, compact cassette, Betamax and VHS tapes that were used in the Mark I life of the university, redolent of the 'educational technology' movement, and quite unsuitable to a modernizing era of encroaching internet technologies.

The University operates a multi-campus network of what are referred to as Study Centres located in each of the 36 States of the Nigerian federation, and the nation's capital, Abuja. In addition, many States also have Community Study Centres – established as a result of community efforts, as opposed to the ones in the State that were built and maintained by the Federal Government. By the end of 2021, the total number of active NOUN Study Centres was 103.

NOUN students are divided into two categories. The first are *enrolled* students who study at their pace, since the university offers a flexible window of eight years to graduation. The second are *registered* students who prefer to follow through a standard four-year degree program within the period, akin to conventional universities. At any point in time, there about 140,000 students actively registered in the university studying in eight faculties offering a total of 88 undergraduate and postgraduate degree programs. The University's strategy is to deliver flexible and affordable education to a large number of students.

The delivery mode of the university is principally through printed courseware materials written by faculty and outsourced external facilitators, usually academic faculty in the individual universities where the Study Centres are located. The courseware materials are also generated as PDF files and uploaded to NOUN website for students – as well as others – to download. With mobile devices becoming increasingly common among especially Generation Z target population in the country, access to both online lessons and courseware materials was easier. The courseware materials are deposited on the University's OER courseware repository. Examinations are of two categories: years one to two are examined by e-Exam, using a CBT matrix. Years three and four and beyond (some programs are five years, e.g., Law) are examined through traditional Pen on Paper (POP), using physical answer sheets. The increasing enrolment into the university actually forced the gravitation to e-Examinations in order to save the costs of administering and marking hundreds of thousands of scripts.

The Covid-19 pandemic hastened the development of a transformation agenda in the University with the internal codename of *Debate to Action*. This had a two-pronged strategy: revolutionize the POP and

empower both teaching and non-teaching staff to develop Virtual Learning Environments (VLEs) in both academic courses and in university management and administration courses. That way, the university will be ready for any long-term siege occasioned by whatever forces that might lead to a system lockdown.

Revolutionizing POP Exams: Factoring Proctoring

Already attuned to online delivery of instruction and video facilitation since its resurrection in 2002, NOUN was poised to cope with the challenges of access to higher education delivery under a pandemic situation. The COVID-19 Pandemic in the country motivated NOUN to engage in a university-wide digital transformation agenda aimed at improving quality of course delivery, expansion of access to learning opportunities and improving the digital infrastructure base of centres and functional units, particularly in the 'New Normal' lockdown, or irregular open circumstances.

When in January 2020 the University scheduled its first semester examinations to begin on 3rd June 2020, it had not seen the pandemic lockdown coming – no one had. When it became clear that in-person examination was not going to be possible, the University decided to experiment with the idea of remote pen-on-paper (POP) examination online, using proctoring software, with additional Artificial Intelligence plugin which internally developed by NOUN's team of software engineers. As Draaijer, Jefferies & Somers (2018, p. 96) explained:

> online proctoring involves technologies and procedures to allow students to take exams securely in a remote location away from a physical exam room. In the US, the term proctoring is used to describe the oversight and checking of students and their credentials for an examination. In the UK and other English-speaking countries, this is referred to as invigilation.

Based on this, NOUN decided to experiment with virtual proctored examination strategy in July 2020, the first of its kind in the country's education system, to meet the expectations of students of taking their examinations as scheduled. Online testing of students in the distance learning matrix has been well-documented (e.g., Palloff & Pratt 2009,

Conrad & Openo 2018). As, for instance, Alession et al. (2017, p. 3) noted, online examination proctoring involves two critical elements:

> first, it activates the camera on a computer, and records the student taking the exam. This enables faculty to observe the students' behaviour and identify activities that may indicate cheating such as talking to others or looking up information in books. Second, it either limits the students' ability to use their computers for other tasks by eliminating the ability to engage in activities such as copy-pasting, printing and searching the internet or it records everything that students do on their computers, or both.

Proctoring, though not fool-proof as will be shown soon, does help in establishing the authenticity of the examination. Such process also has basic minimum requirements on the part of the students. This was why NOUN made the option of taking virtual proctored examination optional.

The administration of the proctored examination was based on a simple non-structured survey instrument administered to all registered students in the NOUN network via their own individual MyLearningSpace portal allocation. The instrument sought only three affirmatives: willingness to pay for the remote examination (internally referred to as Exam on Demand), ability to conduct the examination in an isolated room (with artificial intelligence motion and face monitor remotely controlled) and a laptop with a minimum of 1GB memory, as well as continuous internet access.

The proctoring software deployed did not consider the possibility of taking the examination via hand-held devices. Those that could not meet the requirements simply opted out and waited for the lockdown to ease into 'normal' to do the traditional examinations. This, perhaps, underscores the challenges faced in remote learning in developing countries – not many students have the resources to fully engage in the process. A total of 10,065 students indicated interest in the remote examination, but in the end only 5,271 paid to take the examination – probably caused by economic crunch occasioned by the slowing down of economic activities during the lockdown.

The software used was a reversed engineered Moodle Learning Management System with M-Pass Proctoring tool. The Moodle System supports Essay, Multiple Choice, Short answer and many other question types. Students' responses were saved automatically. The essay questions were marked online on the system after the examinations. The M-Pass proctoring software uses AI to flag attempts when students look away from the exam window. The software also enabled:

- blocking of attempts to navigate from the exam window
- flags/blocks selection of keyboard combinations
- re-coding of the exam session with flags indicating where cheating is suspected
- human proctors can listen in the background and observe live student feeds.

Several factors were taken in consideration to ensure successful implementation. These included:

- ***Equitable Access***: students were given the option to sit for the exam if they have a laptop with webcam, good internet connectivity and one gigabyte of data. Furthermore, options to sit for the exam at their homes or at a convenient venue were given. There were minimal technical requirements.
- ***Content Preparation***: the context and format of the exam was similar to the regular Pen-on-Paper examination except that the students now needed to enter their responses on the computer.
- ***Technical Preparation***: students were provided with videos and infographics detailing the steps for the exams. Trial accounts were provided for students to take mock a mock exam.
- ***Exam Integrity***: the proctoring software was used to ensure exam integrity and proper monitoring. It provided an Artificial Intelligence report, opportunities of human review, violation audit, and statistical assessment. At the end of the exercise an exam review committee sat do make decisions on based on existing regulations.
- ***Marking and grading***: this was done online at the end of the exercise by lecturers in the respective courses. Results were stored in the exam databases.

Results and Discussion of Proctoring Administration
Interestingly enough, the perception of students on the remote examination, though not empirically measured, was that it was not monitored since it was remotely administered. This was reflected in the 919 cases of examination malpractice recorded in the first iteration of the examination. Thus, the first iteration of the examination saw 919 cases of examination malpractice in which students displayed all sorts of ingenious devices to cheat – until they were made aware that they were being monitored visually and aurally. The specific cases of examination misconduct captured were indicated in Table 1.

Table 1: Proctoring and Cheating

S/N	Misconduct Type	Cases	%
1.	Addition/multiple person detection	181	20
2.	Consulting external material	54	06
3.	Impersonation cases	97	11
4.	Using mobile phone to cheat	144	15
5.	Blocking camera to darken screen, leaving seat while exam in -progress, face not clearly visible	443	48
	Total	**919**	**100**

The highest reported misconduct – 48% – in the remote examination was blocking the camera, followed by bringing non-students close to the examinee to assist them, all unconscious that they were being monitored remotely. For the most part, though, the remote examination worked, and faculty had a wonderful time marking the virtual scripts from their comfort zones under lockdown. However, the incessant cheating – 17.4% in five categories –and costs to students made the university

discontinue the remote examination facility. By October 2020, the lockdown had been partially lifted and the university simply rolled into the first semester of the next session, starting with physical in-person e-Examination (CBT).

Eventually the virtual examination facility was not sustained by NOUN due to the difficulties in maintaining its integrity. Further, faculty found it difficult to mark the examinations from their devices – insisting on being paid 'data allowance' for them to effectively mark the scripts from their own devices at home. Most significant outcome, however, was that faculty were not well-prepared for the remote invigilation as well as remote marking of the virtual scripts. This prompted the university to move to a second stage of its transformation agenda – mass capacity building training of faculty in the development of Virtual Learning Environments (VLEs).

Capacity Building Innovations

Stage two of the Debate to Action Transformation Agenda focused on immersive training of all staff of the National Open University of Nigeria. Quite often expositions about ODL tended to focus on theoretical and beneficial aspects of the system with studies focusing attention on the efficacy of ODL. These included Rai (2020), Garrison (2011), Whitelock (2019), Javadpour &Samiei (2017), Otto, Bollmann, Becker & Sander (2018), Anderson (2016), and Anderson & Dron (2011). The Debate to Action initiative aimed at producing an immersive hands-on training on ODL through intensive practical training of all staff of the university on how to develop and deploy VLEs to enhancing quality delivery of instruction to the students. Thus theoretical and conceptual debates were set aside in favor of practical skills acquisition.

Capacity building is necessary for a successful digital transformation agenda (Mallinson & Krull 2013, Al-Enazi 2016). Even more crucial is the approach staff have towards any capacity training that is targeted at improving the delivery systems of their organizations. Quite a few theories attempt to explain how staff engage with technology to improve delivery systems. The most appropriate would seem to be Technology Acceptance Model (TAM), developed by Davis (1989) to measure the

acceptability of a technological innovation and its ease of use (Venkatesh, Brown, Maruping & Bala, 2008). Subsequently it has been proved as the most effective predictor of acceptance of technology innovations in organizations (Mathieson, Peacock, & Chin, 2001; Venketash & Davis 2000, Hartwick & Barki, 1994; Moore & Benbasat, 1992).

It is important in improving the abilities of all staff in an ODL environment, faced with a pandemic lockdown to effectively achieve the goals of providing effective, flexible and functional educational programs. The training areas identified include ODL teaching methods, online facilitation and engagement with students, development of interactive course materials with rich multimedia content, setting of standard examination questions, Learning Management Systems (LMS), online examination script marking, use of ICT devices, use of on-line library databases and tools, OERs and MOOCs and eLearning authoring tools. The overreaching objectives were:

- provide a rich overview of the fundamental principles of Open and Distance Learning (ODL)
- enable lecturers, develop and deliver an effective online course
- strengthen the capacities of lecturers to effectively facilitate their courses online by utilizing synchronous and asynchronous teaching methods
- introduce all staff members to the use and administration of the MOODLE Learning Management Systems (LMS) or Virtual Learning Environment (VLE)
- enhance the capacities of all staff member to provide quality ODL learner support services
- develop the capacities of the IT staff to the administer the LMS
- improve the ICT skills of all staff members.

The capacity building program to achieve focuses on the key fundamentals concepts was designed to be practically oriented (hands-on). Participants at the end of the training exercise should be able to demonstrate understanding of what it takes to deliver quality ODL programs and showcase a well-developed online course. The starting point was Online Facilitation.

Online Facilitation

Online Facilitation, a facility where students engage with the tutors from their individual devices online (Bayne, et. al. 2020), has been an embedded feature of the delivery mechanisms in NOUN right from its inception. Such facilitation offers the opportunity for students to engage with facilitators on the printed/PDF courseware materials already distributed to the students at the point of their registration into the University. The facilitation is offered through the Directorate of Learning Content Management System (DLCMS). As Chapman (2009, p. 1281) noted, 'an LCMS is a system (primarily Web-based) that is used to author, approve, publish, and manage learning content or learning objects.' NOUN uses this iteration of delivery system, rather than Learning Management System (LMS), which as Chapman (2009, p. 1281) further noted, 'provides the platform for the organization's online learning environment by enabling the management, delivery, and tracking of blended learning for employees, stakeholders, and customers.' The crucial difference between them, therefore, is the fact of *content* being available in LCMS, while LMS is about organization of learning.

Typically, the NOUN facilitation exercise comprised of three main activities:

- ***Video Conferencing Sessions***: here the facilitator will come online for one hour based on a predetermined schedule. The facilitator will briefly explain concepts in a course module or unit under consideration after which they answer questions students may have on the course material. All the video conferencing session were recorded and made available on the NOUN Learning Space for review and the benefit of those that could not join the sessions.
- ***Discussion Forums***: an online discussion forum is a learning tool that gives students a place to express their opinion and understanding regarding the topic outlined for discussion. Students are encouraged to challenge one another to think deep on the course. The online facilitator will guide the process.
- ***Chat Sessions with other students in the course***: students may participate in the activities using internet-

enabled smart devices i.e., smartphones, tablets, laptops and desktops. Throughout the exercise students are expected to exhibit basic online etiquette.

The 2020 Covid-19 lockdown led to upscaling the online facilitation delivery mechanism of the university in three specific areas:

- upgrading the university's online learning platform to accommodate students to engage in *sustained* online learning activities. While prior to this upscaling students interact with the LMS of the university on an individual basis, now it has become necessary to consider mass participation of certain key activities requiring remote learning.
- lecturers facilitated their courses online rather that face-to-face gatherings at the Study Centres.
- zoom online learning video conferencing platform was used by lecturers to engage with the students throughout the duration of the lockdown.

All these were preparatory to the next strategy taken by NOUN to sustain quality assurance in its online delivery. The next was digital capacity building initiatives for faculty as well as administrative staff to enable them cope more effectively with an entrenched ODL delivery system by moving away from printed courseware materials to an online Virtual Learning Environment (VLE). This was conducted in three clusters each with a specific target: Special Quality Assurance Training (SQAT) for faculty, The Special Open and Distance Learning Training (SODLT-A) for senior non-teaching staff, and Special Open and Distance Learning Training (SODLT-B) for intermediate and junior staff.

The narrative methodology was adopted in this paper because the events described were part of the lived experiences of the authors, thus providing a deep-rooted ethnographic picture of the events as they unfolded. In justifying narrative methodology, (McAlpinea, 2016, p. 53) argues that "narratives incorporate temporality, a social context, complicating events, and an evaluative conclusion that together make a

coherent story". In other words, narrative inquiry is "a way of understanding experience". It is collaboration between researcher and participants, over time, in a place or series of places, and in social interaction with milieu (Clandinin & Connelly, 2000, p. 20). Further, as Clandinin and Rosiek (2006, p. 42) noted, while the starting point for narrative inquiry is an individual's experience it is also "an exploration of the social, cultural and institutional narratives within which individual's experiences are constituted, shaped, expressed and enacted."

In our adoption of the narrative methodology, we were not analyzing literary texts or written narratives; rather we use narrative as a method of observation and reporting a series of events that we were ethnographically embedded with. In this way, while sidestepping the subjectivity of analyzing a text as a narrative, we also acknowledge a fish-eye perspective of the experiences we were reporting. Anthropology of experience here.

Special Quality Assurance Training (SQAT)

To implement a robust VLE, faculty needed to be trained. This is a strategy that is gaining recognition long before the pandemic lockdown (e.g., Al-Enazi 2016,) It was the lockdown that actually exposed a weakness of being a staff in an ODL institution: most do not have the necessary skills – not being curriculum developers or instructional designers – to convert their courseware materials into an online learning self-contained system. The 2020 lockdown therefore provided a catalytic moment in the development of NOUN's transformation agenda. This was envisaged as a series of continuous capacity building strategies that go beyond debating about the quality assurance in ODL delivery, to concrete actions manifested as developed hands-on VLEs in all the courses faculty are facilitating throughout the university. This will encompass a strategic conversion of some 170 courses in the NOUN system. The first in a series – and which is used to illustrate the impact of the lockdown on an ODL system in Nigeria – was codenamed Special Quality Assurance Training (SQAT).

A total of 158 faculty participated in the SQAT VLE program which was made mandatory to all full-time academic faculty. A total of 35 facilitators were involved in training and grading activities. The

Management of the University was included to enable them not only develop VLE courseware, but also acquire the competencies necessary to validate their management of an ODL institution. Thus, key competencies acquired included:

- hosting of website for the Virtual Learning Environment (VLE)
- hosting of Moodle with the default theme changed to a customized format
- layout for an online course to include timetable, lesson note, video of lesson, discussion form tests and quizzes, and comprehensive examinations
- creating and embedding an instruction video that is of food quality, conversational and easy to understand by weak students
- set up of effective discussion forums
- grading of students' online work
- creating live zoom facilitation sessions
- learner support basics
- methodology for VLE Training.

The training which lasted for six weeks (in batches of three weeks for different categories) spread across September and October 2020 had two tracks, the fast track and the regular track, and all conducted via Zoom so that participants were located in their comfort zones. The fast track was conducted by a Facilitator General who taught the participants using video tutorials, all of which were uploaded on a dedicated channel on YouTube. The regular track was facilitated by a team from the University's Directorate of Learning Content Management System (DCLMS) and provided support to the fast track by way of additional tutorials. Each participant created their own VLE site and subsequently developed two lessons from their areas of specialization in this experimental stage of the training. The participants in the entire VLE training program developed their VLEs based mainly on the tutorial lessons created by the Facilitator General in the fast track.

Results of SQAT VLE Training
Out of the 158 participants who started the SQAT VLE training program, 16 did not complete the course and dropped out. While they were not asked their reasons, the training came at a time when

examinations were being prepared and quite a few of those who dropped out had extensive examination responsibilities.

The participants were tasked with developing two lessons in a VLE environment on their host website (all purchased from BlueHost), uploading their video lessons on an own dedicated YouTube channel, and linking the video lesson to their VLE. An example from a participant is shown in Fig. 1.
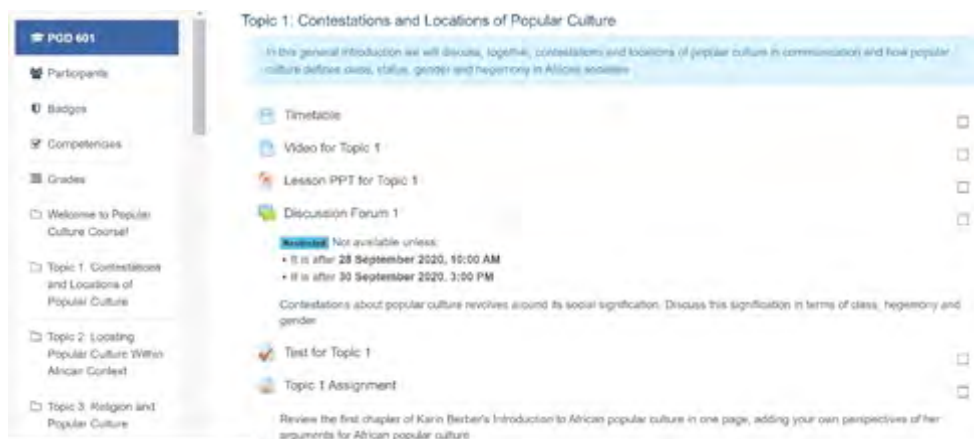

Fig. **1**: NOUN SQAT VLE on African Popular Culture

Participants were additionally tasked with enrolling students to participate in their VLE lessons, quizzes and discussion forum. In all the capacity training programs, two instruments were used to measure competencies and outcomes. The first was a progress chart checklist, marked out of 500. The second was the practical examination scoring guide. The two instruments are indicated in Appendix IA and Appendix 1B.

At the end of the three-week training and development of their VLE for the first batch (faculty), they were graded by the team of support facilitators using the outlined instruments of evaluation. The results of those whose VLEs were evaluated is in Table 2. In the final examinations administered candidates who scored 70 marks and above

had distinction, 60 – 69 credits, 50 – 59 merit and 40 – 49 pass. Participants that scored less than 40 were not given certificates.

Table 2: Results of SQAT

S/N	Grade	Participants	%
1	Distinction	73	51
2	Credit	26	18
3	Pass	8	6
4	Others	35	25
	Total	**142**	**100**

The intensity of the VLE training was such that over 50% of the participants obtained a distinction, while 25% received honourable mention. Each participant was rewarded with a certificate as proof of competency in VLE development in their respective disciplines.

The Special Open and Distance Learning Training (SODLT-A)
This second segment of the VLE training was targeted at 732 senior non-teaching staff of the University. The purpose of their training was to familiarize them with a VLE in an ODL institution and enable them to communicate competencies and understanding of the inner mechanism of an ODL institution. The title of the program is *Setting Up and Managing E-Learning Platform for Quality University Education*. The objectives were to strengthen the capacity of NOUN Administrative staff to:

- support the delivery of courses so have significant improvement in the quality of NOUN graduates in a way

that the graduates become the most sought after in Nigeria

- train NOUN academic staff to deliver the best ODL programs in Africa
- produce master trainers for NOUN that will train all Nigerian universities and the entire school system in delivering quality ODL as stimulated by the COVID-19 environment.

The competencies and skills taught were:

- developing welcome videos in the VLE
- set up of a virtual library for e-books, e-journals, videos and others
- development of lesson videos
- daily layout of online learning activities to include weekly timetable, lesson notes, discussion forum, quizzes, weekly tests and comprehensive examinations
- presentation of live zoom lessons
- conduct of chat sessions
- good learner support practices
- set up of question feedback
- assessing the log of students' activities
- developing interactive and visually appealing elements.

The training program was a three-week intensive training program with 9 lecturers, 60 grading facilitators. The training program had two tracks – The conceptual track and the practical track. The practical track focused on acquiring administrative and communication skills in order to provide better service to clients – especially online. The idea was that just because someone was not sitting in front of you, is not a license to serve them well. The conceptual track dwelt on understanding the underlying principles behind developing a VLE training system in a lockdown situation, even if the developer is not an academician.

Results of SODLT-Training

A total of 732 participants were able to access and develop a virtual learning course environment using the MOODLE learning management system. At the end, the VLEs they developed were rigorously assessed by a team of evaluators. The results are shown in Table 3.

Out of a possible score of 500, participants that scored between 400 and 500 marks earned distinction, while scores in the range of 300 – 399 earned credit, 250 – 299 earned merit, 200 – 249 pass, and less than 200 fail.

S/N	Grade	Number
1.	Distinction++	111(15%)
2.	Distinction+	87(12%)
3.	Distinction	27(4%)
4.	Credit+	119(16%)
5.	Credit	49(7%)
6.	Merit	98(13%)
7.	Pass	59(8%)
8.	Fail	182(25%)
	Total	**732**

It was gratifying that non-teaching staff, encountering a VLE development concept for the first time were able to majorly pass the quality assurance evaluation of the VLEs they developed. While not intended to make them full course developers, the increasing possibilities of lockdown due to drawn-out pandemic fears have necessitated creating alternative ways of sustaining qualify of deliverance from remote locations. The training program therefore aimed at enabling the participants to maintain extreme social distance by continuing their professional enrichment training at safe distances, most preferably, home zones.

The Special Open and Distance Learning Training (SODLT-B)
The third and final training cycle was for 'junior staff' in the Nigerian

civil service structure. These are not academics, but the lockdown provided an opportunity to increase their awareness of what an Open and Distance Learning institution is, and how it can operate in the absence of in-person tutoring. The training was a one-week intensive training held virtually. A total of 1,405 participants connected and participated across 81 study centres in the 36 states and the Federal Capital Territory, although only 1,333 finished the course enough to be evaluated. The training program had 24/7 engagement with the course resources, six facilitators, and 60 grading support staff participated in training and grading activities.

The objective of the program was to strengthen the capacity of NOUN Administrative staff to:

- support the delivery of courses that is expected to lead to significant improvement in the quality of NOUN graduates and that they are the most sought after in Nigeria
- train NOUN academic staff to deliver the best ODL programs in Africa and
- produce master trainers for NOUN that will train other Nigerian universities and the entire school system in delivering quality ODL a stimulated by the COVID-19 pandemic

The training course content included:

- the principles of Open and Distance Learning
- meaning of common words and terminologies used in NOUN and ODL systems
- walkthrough of the NOUN Virtual Learning Environment
- history, law, structure and operations of NOUN
- details of the journey of a NOUN student from admission to graduation
- the role of CONTISS 1 to 6 Administrative Staff in making NOUN the best ODL university in Africa
- end of course examination

To participants are mainly junior staff members, most of the presentation were brought down to the level of the participants. All lectures were translated into the three major Nigerian languages of Hausa, Igbo and Yoruba to provide an all-inclusive training

environment. A major challenge faced was the on-the-fly translation of computing terms into the local language. However, it became necessary in order to enable many of the participants who could not speak English, at least follow the tide of the training, if not its fine-tuned specificities.

Results of the SODLT-B VLE Training

The results of the evaluations conducted after the training shows a high success rate, even though, as in the case of senior non-academic, there were also quite a number of failures as shown in Table 4.

Table 4: The Results for SODLT-B

S/N	Grade	Participants
1	Distinction	434
2	Credit	146
3	Merit	254
4	Pass	208
5	Fail	291
	Total	**1333**

Overall, the 2020 health crisis and the subsequent lockdown for most of the year was a wakeup call to the National Open University of Nigeria to re-engineer itself as a foremost Open and Distance Learning institution in Nigeria. The lockdown drew attention to the need for the entire spectrum of staff in the university to reinvent themselves as providers of ODL through enhanced Virtual Learning Environments. The Technology Acceptance Model (TAM) originally popularized by Davis (1989) clearly applies here, as evidenced by the high rate of success for both academic staff and students in terms of VLE and proctored examinations respectively. Academic staff in NOUN are employed with the assumption of already being positively tuned to technology, so the issue of acceptance of innovations does not apply here: they are already

in an innovative workplace, where there is little room for choice on whether to adopt VLEs or not. In any event, with or without pandemic lockdowns, developing of VLEs especially in ODL institutions is an essential skillset for the 21st century (Annetta, Folta, Klesath (2010).

With regards to student's examination proctoring, the overwhelming challenge was the assumption that remote invigilation was not so strict and therefore could enable cheating in the examination – as evidence by a high number of examination malpractice cases in the proctored examination in July 2020.

The success of the VLE capacity training in NOUN post-lockdown prompted the university to intensify its transformation agenda to include development of VLEs in five Flagship Programs, together with another cycle of capacity building – all online as in the first cycle – for external facilitators. This initiative attracted the attention of the higher education regulatory commission in Nigeria, the National Universities Commission (NUC) with in February 2021 started working with NOUN to see to the possibility of extending the VLE training to other universities in the Nigerian university system – effectively on the track to make Nigerian higher education lockdown-proof in the future.

Conclusion and Recommendations

The total global lockdown in 2020, followed by semi-lockdown in 2021 caught the education sector totally unaware. There was no 'backup' plan for sustainable academic activities in many countries. It took a while before remote learning – already available in some rudimentary form for extreme academic situations – to be brought to the front burner. The main challenge faced, however, was lack of technical competencies to conduct mass online education, particularly in the era of budget cuts occasioned by slow economic impetus as a result of the lockdown. Universities in developing countries were particularly hard hit. In Nigeria, the situation was worsened by an on-going strike embarked by the union of university lecturers at the same time of the lockdown. The solutions provided, often as impromptu, relied on technical competencies the universities do not have, with technical requirements that came too deep into the academic year and therefore were not factored in the budgeting process at the start of the academic year.

In the light of these challenges occasioned by the sudden intrusion of the COVID-19 intrusion, this study set out to examine how the pandemic propelled a transformative agenda at Nigeria's flagship Open and Distance Learning institution in spite of the massive uncertainty that had taken root in many educational institutions across the country. This was done through three innovative approaches of online examinations with remote proctoring, massive capacity building on Virtual Learning Environment's development and delivery techniques, and online facilitation.

With regards to the proctoring of the examinations, the results indicate that although only 4% of registered students took the proctored online examinations, the examinations were successfully concluded with results integrated into the university records. However, the incidences of examination malpractices were higher than in the normal exams. The rigorous online capacity building exercises across all cadres of the university staff members had 77% pass rate for the participants. Lecturers were able to interact with students using video conferencing tools and discussion forums at regular schedules throughout the lockdown. Taken together, these actions offered a novel perspective within the sub region that online learning is feasible, though a challenging mode of education delivery. It highlights the advantages of digital infrastructure as a means of coping in a difficult health crisis.

References

Adarkwah, M. A. (2020). "I'm not against online teaching, but what about us?": ICT in Ghana post Covid-19." *Educ Inf Technol* (Dordr). Sep 16: 1–21.

Adnan, M. & Anwar, K. (2020), Online learning amid the COVID-19 pandemic: students' perspectives. *Journal of Pedagogical Sociology and Psychology*, 2(1), 45-51.

Al-Enazi, G. T. (2016) Institutional Support for Academic Staff to Adopt Virtual Learning Environments (VLEs) in Saudi Arabian Universities, Durham theses, Durham University. Available at Durham E-Theses Online: http://etheses.dur.ac.uk/11417/

Anderson, T. (2016). Theories for learning with emerging technologies. In: G. Veletsianos (Ed.), *Emergence and innovation in digital learning: Foundations and applications,* pp. 35–50. Edmonton, AB: Athabasca University Press.

Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. *International Review of Research in Open and Distributed Learning*, 12(3), 80–97.

Andersson, A. & Åke Grönlund. (2017). Conceptual framework for E-Learning in developing countries: A critical review of research challenges. *The Electronic Journal of Information Systems in Developing Countries*. Vol 18(1), 1-16.

Annetta, L. A., Folta, E., & Klesath, M. (2010). *V-learning: Distance education in the 21st century through 3D virtual learning environments*. New York: Springer.

Barrett, A. et. al. (2012). *E-Learning Innovations: Curriculum Development for Online Courses*. Dallas, Tex: Starlink.
Bayne, S. (2020). *The Manifesto for Teaching Online*. Boston, MA: The MIT Press

Burgos, D. (2020). *Radical Solutions and eLearning: Practical Innovations and Online Educational Technology*. Singapore: Springer.

Burgos, D., Tlili, A. & Tabacco, A. (2021) (Eds,). Radical Solutions for Education in a Crisis Context: COVID-19 as an Opportunity for

Global Learning. Cham: Springer.

Chapman, D. D. (2009). Introduction to Learning Management Systems. In: P. L., Rogers, G. A. J.V. Boettcher, C. Howard, L. Justice, & K.D. Schenk (Eds.). *Encyclopedia of Distance Learning*, (2nd ed.). Hershey PA: IGI Global, pp. 1280-1286.

Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. San Francisco: Jossey-Bass.

Clandinin, D. J., & Rosiek, (2006). Mapping a landscape of narrative inquiry: Borderland spaces and tensions. In: D. J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 35–75). Thousand Oaks, CA: Sage

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-342.

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems* 49(1) 5–22 *Distance and e-Learning*, 35(2), 103-104.

Draaijer, S., Jefferies, A. & Somers, G. (2018). Online proctoring for remote examination: A state of play in higher education in the EU. In: E. Ras & A. E. G. Roldán (2018) (Eds.) *Technology Enhanced Assessment: 20th International Conference, TEA 2017*, Barcelona, Spain, October 5–6, 2017 (pp. 96-108). Springer.

Forsyth, H., Pizzica, J., Laxton, R. & Mahony, M. J. (2010). Distance education in an era of eLearning: Challenges and opportunities for a campus-focused institution, *Higher Education Research & Development*, 29(1), 15-28,

Garrison, D. R. (2011). *E-Learning in the 21st century: A framework for research and practice* (2nd ed.). Routledge/Taylor and Francis.

Gesu, M.G. & Gonzalez, M. F. (2020). *Cultural Views on Online Learning in Higher Education: A Seemingly Borderless Class*. Springer International Publishing.

Hartwick, J., & Barki, H. (1994). Explaining the role of user participation in information system use. *Management Science*, 40(4), 440-465.

Isais, P., Sampson, D. G. & Ifenthaler, D. (2020). *Online Teaching and*

Learning in Higher Education. Cham. Springer International Publishing.

Javadpour, A., & Samiei, S. (2017). Motivation and barriers to participation in virtual knowledgesharing communities of practice. *Management Science Letters*, 7, 81–86.

Kafyulilo, A. C. (2015). Challenges and Opportunities for E-Learning in Education: A Case Study. In *Handbook of Research on Educational Technology Integration and Active Learning*, J. Keengwe (Ed.). Harshey, PA: IGI Global, 317-328.

King, E. & Boyatt, R. (2014). Exploring factors that influence adoption of e-learning within higher education. *British Journal of Educational Technology*, 46(6), 1-9.

Mallinson, B. J. & Krull, G. (2013). Building academic staff capacity to support online learning in developing countries. *Journal of Asynchronous Learning Network*, 17(2):63-72.

Mason, R., & Rennie, F. (2006). *E-learning: The key Concepts*. London: Routledge.

Mathieson, K., Peacock, E. & Chin, W.W. (2001). Extending the technology acceptance model: The influence of perceived user resources. *Database for Advances in Information Systems*, 32(3), 86-112.

McAlpinea, L. (2016). Why might you use narrative methodology? A story about narrative. *Eesti Haridusteaduste Ajakiri*, 4(1), 32–57.

Moore, G.C., & Benbasat, I. (1992). *An empirical examination of a model of the factors affecting utilization of information technology by end users* [working paper]. University of British Columbia, Vancouver, B.C.

NCDC. (2021). First Case of Corona Virus Disease Confirmed In Nigeria. Nigeria Centre for Disease Control. https://www.ncdc.gov.ng/news/227/first-case-of-corona-virus-disease-confirmed-in-nigeria

Osler, S. (2019). *Coronavirus Outbreak: all the secrets revealed about the Covid-19 Pandemic*. Dental Books.

Otto, D., Bollmann, A., Becker, S., & Sander, K. (2018). It's the learning,

stupid! Discussing the role of learning outcomes in MOOCs. *Open Learning: the Journal of Open, Distance and e-Learning*, 33(3), 203–220.

Rai, L. (2020) Reflecting on open and distance educational practices based on insights from educational practitioners and learners, *Open Learning: The Journal of Open,*

Rajhans, V., Memon, U., Patil, V. & Goyal, A. (2020). Impact of COVID-19 on academic activities and way forward in Indian Optometry. *Journal of Optometry*, 13,216-226.

Ramos, F., Tajú, G. & Canuto, L. (2011). Promoting distance education in higher education in Cape Verde and Mozambique, *Distance Education*, 32(2), 159-175

Rawani, A. M. & Singh, A. K. (2020*) Revolution in Indian Higher Education with COVID-19*. Sankalp Publication.
Salmon, G. (2003). *E-moderating: The Key to Teaching and Learning Online*. New York: RoutledgeFalmer.

Sinecen, M. Ed. (2018). *Trends in E-Learning*. London: IntechOpen.

Stephen, G., Dyer, F. & Kyle, R. (Eds.) (2020). *Tertiary Online Teaching and Learning: TOTAL Perspectives and Resources for Digital Education*. Cham: Springer International Publishing.

UNESCO. (2021). *COVID-19 Education Response*. Global Education Coalition.   https://en.unesco.org/covid19/educationresponse/globalcoalition
Venkatesh, V., & Davis, F.D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186-204.

Venkatesh, V., Brown, S. A., Maruping, L. M., & Bala, H. (2008). Predicting different conceptualizations of system use: the competing roles of behavioral intention, facilitating conditions, and behavioral expectation. *MIS Quarterly*, 32(3):483-502

Whitelock, D. (2019) Moving forward with both theory and practice. *Open Learning: The Journal of Open, Distance and e-Learning*, 34:3, 219-220.

Yang, N. (2020). *eLearning for Quality Teaching in Higher Education:*

Teachers' Perception, Practice, and Interventions. Singapore: Springer.

Zhang, W., Wang, Y., Yang, L., & Wang, C. (2020). Suspending Classes Without Stopping Learning: China's Education Emergency Management Policy in the COVID-19 Outbreak. *Journal of Risk and Financial Management*, *13*(3), 55.

Appendix 1: NOUN VLE Evaluation Instrument
A. Progress Chart Checklist
Maximum=500; Score for Distinction=400 (80%)

S/N	Item	Score
1.	Welcome video	20
2.	Course virtual library set up with at least three entries for each of e-books (9), e-journals (9), videos (9) and others (9), moved to the top of the page (2) and with virtual library image or logo (2)	40
3.	Daily layout of activities using "homegrown" buttons (20 marks) and a scrolling marquee (20 marks)	40
4.	Timetable for Week 1 (set as a table)	5
5.	Layout of activities for Week 1 (sequence=5; each of the five items= 2 marks each)	15
6.	Discussion Forum for Topic 1 (details visible on course page=5; settings=15).	20
7.	Discussion Forum No. 1 scored and scores sent to all students and copied to assessors	20
8.	Quiz for topic 1 (quiz settings- availability (1), duration (1); items=18, well laid out=20; Quiz taken even by at least one student=20)	40
9.	Week 1 test scores sent to all students and copied to assessors	20
10.	Timetable for Week 2 (set as a table)	5
11.	Layout of activities for Week 2 (sequence=5; each of the five items= 2 marks each)	15

12.	Discussion Forum for Topic 2 (details visible on course page=5; settings=15).	20
13.	Discussion Forum No. 2 scored and scores sent to all students and copied to assessors	20
14.	Quiz for topic 2 (quiz well laid out=20; Quiz taken even by at least one student=20)	40
15.	Week 2 test scores sent to all students and copied to assessors	20
16.	Evidence of conduct of Zoom lesson	30
17.	Evidence of good learner support	20
18.	Report of log of student activities sent to assessors	20
19.	Evidence of engaging students in online chat (screen shot)	20
20.	Evidence of set up of comprehensive examination (multiple choice and essay)	40
21.	Question bank set up	30

A.Practical Examination Scoring Guide

S/N	Task	Score
1.	Renaming topic	5
2.	Introductory video (available=10 and accurate=10). Shown on entry to the topic site= additional 5 marks	25
3.	Video lesson set up when supplied with YouTube link (less 5 marks if no title= Graduating the best)	15
4.	Discussion Forum (appearance on course page=5; setting=15)	20
5.	Set up quiz with two multiple-choice questions supplied (correct quiz settings=10; correct upload of questions=10)	20
6.	Inserting of scrolling marquee	20
	Total	100