

# Investigating E-Learning Utilisation during COVID-19 Pandemic Lockdown in Southwestern Nigeria

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## Abstract

At its peak, the COVID-19 pandemic in Nigeria forced the country into a social lockdown that prevented all normal activities including education. The Nigerian Ministry of education and other educational institutions in Nigeria introduced e-learning during the pandemic lockdown. The e-learning activities were carried out with many challenges faced by institutions' management, ICT staff, lecturers, and students alike. The focus of this paper is to investigate the e-learning utilisation during the period of COVID-19 lockdown. In carrying out this research, the survey approach was employed to generate data for the study in the South-West of Nigeria. This was achieved through the circulation of copies of a questionnaire electronically after personal interviews with certain personnel. The population sample for the study comprised students from the South-West part of the country while the respondents were from various tertiary institutions and locations in the area. The results showed that e-learning was employed for various aspects of learning including lectures (87.7%), quizzes (37.8%), assignments (69.6%), practical classes (15.2%) and examination (17.4). A total of 88% of respondents indicated understanding of the concept of e-learning while only 12% outrightly indicated they did not understand the concept. Only 9.2% of the respondents have 100% concentration during the online classes. Over 70% of the whole sample was apathetic to online learning while only 9.3% prefer it to traditional teaching. The study revealed that educational stakeholders should improve upon and extend the gains of e-learning during to take fuller effect post-COVID-19.

**Key Words:** COVID-19 lockdown, E-learning challenges, ICT infrastructure, online learning, Southwestern Nigeria.

## 1 INTRODUCTION

The entire world faced the ravages of the COVID-19 pandemic from 2019 to date. At its peak, nearly all countries of the world were forced into a social lockdown that prevented all normal activities in the cities, towns and villages to take place. The infectious disease caused by the novel coronavirus was detected in Wuhan City, Hubei Province of China in December 2019 and the causative virus was isolated on 7th January 2020. Gradually, the deadly virus was being exported to other places around the world. The virus spread from China to other part of the globe affecting more than 163 countries in mid-March, 2020. As the disease spread it made its way to Nigeria on 27<sup>th</sup> February 2020 when the index case was detected. The global emergence and spread of the coronavirus have been well described with expository and exploratory data analysis(Are & Ekum, 2020) that show that the pandemic ravaged virtually the entire globe.

All facets of the global economy faced the impact resulting in a sudden economic recession. Governments around the globe took proactive steps to curtail the spread of the novel coronavirus. These guidelines limited what activities can be engaged in and to what extent. In Nigeria for instance, several regulations and advisories were issued by governments at all levels and agencies/authorities such as the Presidential/States Task Force on COVID-19, National Centre for Disease Control (NCDC), Federal/States Ministries of Health tailored towards curtailing and containing the pandemic(Nigeria Police Force, 2020). These regulations affected the mode of education dissemination in the

country as the Federal Ministry of Education issued a notice of closure of all schools, colleges, religious and educational institutions.

In an attempt to give an opportunity to learners while the COVID-19 lasted indefinitely, e-learning was introduced by the Nigerian Ministry of education and other education institutions in Nigeria as a way to tackle the social isolation occasioned by the COVID-19 lockdown. Many educational institutions in the country started, for the first time, using various learning alternatives including using Google Classroom, YouTube videos, social media such as WhatsApp, email, dedicated institutional portals, etc. to deliver their curricula partly on the Internet (online) and offline. These various means of curricula delivery are termed as e-learning during the COVID-19 lockdown. The e-learning activities were carried out by primary and secondary schools and higher institutions—colleges of education, *monotechnics*, polytechnics, universities, and other higher education institutes—with many challenges faced by institution management, ICT staff, lecturers, and students alike. The focus of this paper is to investigate some of the challenges faced by learners during the e-learning period of COVID-19 lockdown.

The usual challenges since pre-COVID-19 era that accompany e-learning in developed countries are numerous and varied. These include lack of electricity, poor Internet connectivity, poor ICT infrastructure, high cost of electronic devices needed for e-learning, lack of trained personnel and so on (Gunga & Ricketts, 2006; Ma & Yuen, 2011; Omoda-onyait & Lubega, 2011). Another challenge faced during the COVID-19 lockdown was the suddenness of the lockdown that caught the whole world unawares. This made the e-learning process to be a forceful one due to lack of preparedness on the part of the institutions of learning, instructors and the learners.

## 2 E-LEARNING AND THE NIGERIAN EDUCATIONAL SYSTEM

The Nigerian pre-COVID-19 e-learning history could be traced back to the development of telecommunication which began in 1886. E-cable connections were established by the colonial masters between Lagos and the colonial office in London to transmit information and receive feedback (Ajadi, Salawu, & Adeoye, 2008). Thus a means of communication and information sharing was established. The telecommunication industry gradually grew to welcome the Nigeria Telecommunication (NITEL) that was sole telecommunication services provider until sometimes in the 90's when the Federal Government of Nigeria commenced the liberalization policy of telecommunication industry that gave birth to four (4) private telephone service providers (Mtel – NITEL, Econet now Airtel, MTN and Communication Investment Limited – CIL) licensed to provide General System for Mobile Services. CIL license was later revoked and issued to Globacom (Glo) Nigeria. Following this development, more companies were licensed to provide Internet services in Nigeria. Several Internet Service Providers came into the scene and this gave the opportunity for many Nigerians to be connected to the Internet through broadband VSAT connection

In the Nigerian educational institutions, e-learning has been adopted to a limited degree in curriculum delivery (Chigozie-okwum, Ezeanyej, & Odii, 2018). The limited degree of adoption does not go without facing challenges. Lecture notes have been delivered on CD-ROM which can be played at the learner's convenience. Some institutions employed the use of intranet facilities for online learning. Few institutions in the country had been able to weather the storms of challenges facing e-learning to a reasonable degree. These institutions include The Federal Polytechnic, Ilaro, University of Ibadan, Obafemi Awolowo University, University of Benin, University of Abuja, University of Lagos, National Open University of Nigeria, Covenant University, Madonna University, among others. These institutions have the facilities for e-learning. It has been shown in the literature that e-learning methods have a very good prospect in Nigerian higher institutions (Nicholas-omoregbe, Azeta, Chiazor, & Omoregbe, 2017; Odegbesan et al., 2019; Yakubu, Kah, Dasuki, & Quaye, 2019). Additionally, e-learning has been adopted for distance education by few educational institutions in the country albeit with various challenges (Adu, Eze, Salako, & Nyangechi, 2013; Ajadi et al., 2008; Nathaniel & Olusola-Adedjoja, 2017) that hampered its full adoption.

As a measure to make learning continual as the COVID-19 lockdown progressed, the Nigerian Federal Government launched free e-learning portals for all students in primary and secondary schools following the closure of schools nationwide to prevent the spread of COVID-19 pandemic. The Federal Minister of State for Education announced that all students in the country were granted free access to e-learning portals such as schoolgate.ng and mobileclassroom.com.ng (Adedigba, 2020). The e-learning platforms were made subscription-free for Nigerian

students in primary and secondary levels during the period COVID-19 pandemic. The Ministry of Education also provided study timetables for the online classes in the 36 states of the country on its website. Many higher education institutions used their institutional portals and other platforms such as Google Classroom, YouTube, emailing and other social media as platforms for e-learning curriculum delivery during the pandemic. Some states in the country also adopted radio and television learning programme for schools' children (EduCeleb, 2020).

With the various level of adoption of pre-COVID-19 e-learning in Nigerian educational institutions, the coronavirus pandemic made the adoption to be much imperative. Thus, the management of many schools, colleges, and higher educational institutions made it mandatory for their teachers and instructors to give online learning during the pandemic. This, to a degree, caused a paradigm shift in the way curriculum had been delivered to learners in many schools and institutions. Further, many students were forced to embrace online learning during the period. Thus, the study was set out to investigate what was the learners' experience in the southwestern part of the country. The general challenges faced by students of various academic institutions were investigated to determine how the "new normal" during the COVID-19 lockdown has affected them.

### **3 METHODOLOGY**

In carrying out this research, the survey approach was employed to generate data for the study. This was achieved through the circulation of copies of a questionnaire electronically after personal interviews with certain personnel. Information collected from textbooks and the Internet constituted secondary data for the study. Statistical methods were employed in analyzing the results. The responses were grouped according to the answers given to each question. The completed questionnaires were automatically processed through software and the results were presented in percentages using pie-chart.

#### **3.1 Data and Instrument for Data Collection**

The data for the research work were collected mainly from primary source. They were collected by the researchers with the use of an online questionnaire. There was no better way of administering the questionnaire during the lockdown than online method. The survey questions were on the respondents experiences during covid-19 pandemic. A well-structured questionnaire consisting of twenty-five questions was administered electronically via a link generated online from Google Form. The respondents easily supplied the required information through the online form. The social media platform WhatsApp was used to distribute the link because of wide acceptance and popularity across every part of the society. The responses were submitted to the database created for that purpose with option also given to each respondent to receive a copy of his/her copy as well via the e-mail supplied. Descriptive statistics using pie charts and bar charts were used to present the results.

#### **3.2 Sample and Selection Characteristics**

Nigeria as a whole is divided into six geo-political zones. However, because of time and other logistic factors, the entire zones were not covered. The population study was limited to the South West of Nigeria comprising of Ekiti, Ogun, Ondo, Osun, Oyo and Lagos States. This region seems to have the highest population density education-wise in the country as they boast of many tertiary institutions. The population sample for the study was therefore a set of students from the South-West part of the country using a randomized sampling technique. The respondents were from various tertiary institutions and locations in this area.

#### **3.3 Survey Questions**

The questionnaire is composed of twenty five items structured questions developed by the researchers. It was first critiqued by other faculty staff and further administered to some set of students as pilot stage for validity test. The feedbacks from these were used to finally restructure the questionnaires before administering it to the generality of the students in the areas of study. The whole period covers about six weeks.

The key performance indices used to assess the students e-learning during the pandemic include understanding of the concept, level of concentration, involvement in e-learning, awareness of e-learning before Covid-19 pandemic lockdown, e-learning as substitute to physical learning, level of adoption of online classes and e-learning acceptability. These performance indices aim at assessing the e-learning during the covid-19 lockdown period. They

were structured to elicit the necessary information from the respondents. Dichotomous scale model was mainly used for the survey responses. The expected responses for the (key performance indices) KPI are as shown in Table 1.

**Table 1: Key Performance Indices for assessing e-learning during covid-19 pandemic**

S/N	Performance Index	Expected Response			
I.					
1.	Understanding of the concept of e-learning	Yes		No	
2.	Involvement in e-learning	Yes		No	
3.	Awareness of e-learning before Covid-19	Yes		No	
4.	Learning as substitution to physical learning	Yes		No	
II.					
5.	Prefer online	Yes	No	Maybe	
6.	Acceptability	Yes	No	Maybe	
III.					
7.	Level of adoption of online	Online class	Assignment	Examination	Quiz
8.	Level of concentration	25%	50%	75%	100%

#### 4 RESULTS AND DISCUSSION

In the analysis of the data set gathered during the course of the study, the following results were generated. Table 2 provides the gender demographics for the respondents. The summary of responses is provided in Table 3 with the statistical analyses of the data.

**Table 2: Gender Distribution for the population sample**

Gender Distribution			
		Frequency	Percent
Valid	Male	426	49.4
	Female	437	50.6
	Total	863	100.0

**Table 3: Responses data**

Summary of Responses	N		Mean	Std. Error of Mean	Mode	Variance				
	Valid	Mis sin g								
I.										
	Yes	No								
Understanding the concept of e-learning	670	74	744	111	1.0995	0.01098	1	0.09		
Involvement in e-learning during Covid-19	752	103	855	0	1.1205	0.01114	1	0.106		
Awareness of e-learning before Covid-19	355	500	855	0	1.5848	0.01686	2	0.243		
E-learning as substitute for Physical learning	495	360	855	0	1.4211	0.0169	1	0.244		
II.										
	Yes	No	Maybe							
Preference for online classes	80	605	154	839	16	2.0882	0.01799	2	0.271	
E-learning Acceptability	437	174	244	855	0	1.7743	0.02955	1	0.746	
III.										
Level of concentration	25%	50%	75%	100%	855	0	2.3906	0.02922	2	0.73
Level of adoption of online	Online class	Assign ment	Exami nation	Quiz	281	574	1.3986	0.0464	1	0.605

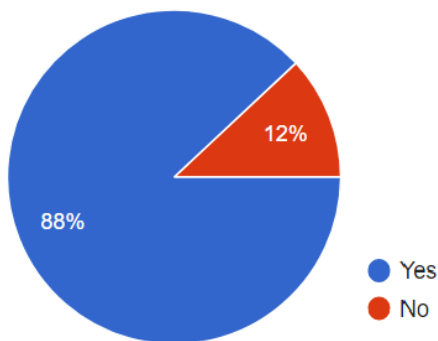


Fig. 1: Understanding the concept

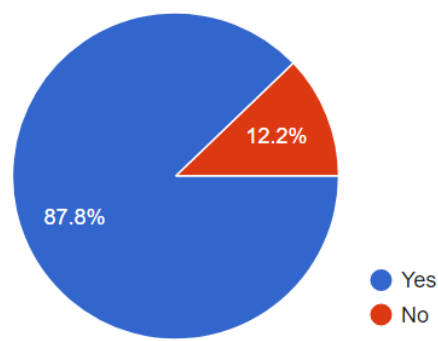


Fig. 2: Involvement in e-learning

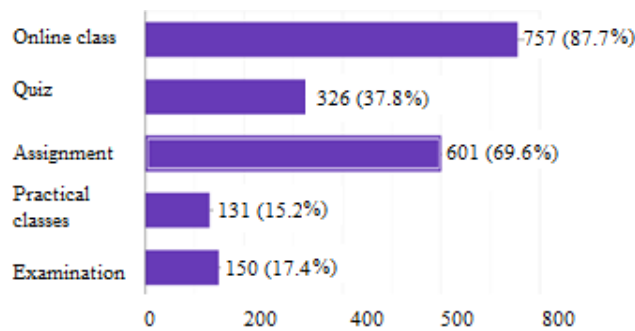


Fig. 3: Level of adoption

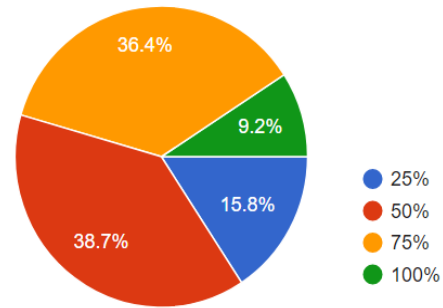


Fig. 4: Level of concentration

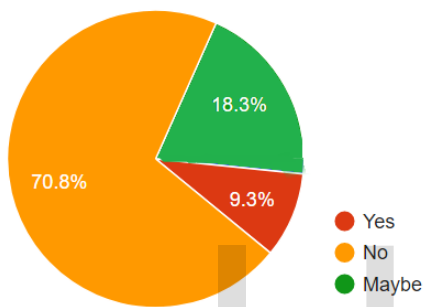


Fig. 5: Preference for online

## 5. DISCUSSION

The results given in Table 2 show that gender participation in the study was almost equal with female respondents (50.6%) slightly above male (49.4%) counterparts. Equal level of gender participation was an indication that there was a gender balance in education in the area under study. Before the covid-19 outbreak, the level of awareness of e-learning was relatively low as more than half of the respondents indicated they were not aware of e-learning before covid-19 pandemic.

As seen in Figure 1 a total of 88% indicated understanding of the concept of e-learning while only 12 % outrightly indicated they did not understand the concept. This showed that the level of awareness was very high. Majority of the students in the South-West according to this study were involved in e-learning during the covid-19 lockdown. This shows that culture and passion for education were still high despite the challenge of the pandemic. Online class was highly adopted during the period under study as a majority of respondents (87.8%) indicated participation (Figure 2). As presented in Figure 3, e-learning was employed for various aspects of learning including lectures (87.7% respondents' participation), quizzes (37.8% respondents' participation), assignments (69.6% respondents' participation), practical classes (15.2% respondents' participation) and examination (17.4% respondents' participation).

The students' level of concentration during the e-learning sessions was not too good. There was varying responses regarding the concentration level as seen in Figure 4 with those in 50% concentration category having the highest response of 38.7%. Only 9.2 % of the respondents have 100% concentration. This means that less than half of the class (45%) has some level of understanding while more than half of the students have below 50% understanding.

Many of the students in South West of Nigeria will want to have e-learning as substitute for physical learning perhaps during the covid-19. This is understandable as efforts to minimize the spread of the virus were very high at the time. Despite this, over 70% of the whole sample was apathetic to online learning while only 9.3% prefer it to



traditional teaching. This is shown in the results in Figure 5. Over half of the respondents accepted the e-learning perhaps as an alternative to traditional method during covid-19. This is not unexpected as the people of Southwestern part of Nigeria traditionally have passion for education and therefore will be ready to use any available means to study rather than staying idle.

## 6 CONCLUSION

The period of COVID-19 pandemic lockdown was generally a period when all human activities were at a low ebb. This does not spare the educational sector in Nigeria. Many educational institutions adopted for the first time, e-learning to cushion the effect on education of COVID-19. In this study, KPI have been used to assess the students' e-learning activities during the covid-19 pandemic. The KPI comprise the understanding of the concept taught, level of concentration on the part of the learner, level of involvement in e-learning, awareness of e-learning before COVID-19 pandemic. Respondents view on e-learning as a substitution to physical learning was carried out and the level of adoption of the online class by various institutions and acceptability level of the e-learning.

This paper has established that the majority of the students in the South-West were involved in e-learning during the covid-19 pandemic lockdown. This shows that culture and passion for education are still high despite the challenge of the pandemic.

Hence, this study is of the view that educational stakeholders should enhance the motivation to learn, which have been initiated by the Covid-19 break out pandemic. Thus, the gains of e-learning during the lockdown can be extended to take fuller effect post-COVID-19.

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