Challenges Of E-Learning Amid COVID -19 Lockdown in Federal Polytechnics, Nigeria

IKPOTOKIN SUNDAY ATABHOTOR[1], OJUTALAYO MOBOLANLE KOFOWOROLA[2], SOWUNMI ELIZABETH BOLATITO[3]

[1] *Department of Basic Sciences, School of General Studies, Auchi Polytechnic, Auchi, Edo State, Nigeria.*

[2] *Abesan Junior High School, Lagos Education District One, Nigeria*

[3] *Airforce Secondary School, Nigeria Airforce Base Ikeja, Lagos, Nigeria*

Abstract- ***All over the world, e-learning is seen as an alternative to conventional classroom during the covid -19 lockdoen and an opportunity to access vast amount of information using the lockdown period as an opportunity to use various resources available on internet learn what wouldn't have been possible in the conventional classroom. Unfortunately, Nigerian polytechnic students are still lagging behind in spite government's unflinching effort in providing various e-learning platforms for effective learning amid covid -19 lockdown. This study is an attempt to investigate the challenges of e-learning in Nigerian Polytechnics during covid -19 lockdown. A descriptive survey design was used to carry out the study. The population of the study consisted of all federal polytechnics students in Nigeria. The sample area was Federal Polytechnic, Auchi, Edo state Nigeria. A structured questionnaire was administered online through Google classroom to 249 students but only 24 students responded. The data collected were analyzed on SPSS. The outputs display frequency distribution table showing percentages of the responses to each question. Based on the analysis of data, it was found that 75% of the of students are from rural areas without or with poor internet connectivity and epileptic electrical power supply. Many Students that participated with e-learning dropped out as they lost interest due o high cost of data subscription, and lack of regular supply of electricity. Students are willing to continue with e-learning if internet subscription is free with regular supply of electricity.***

Indexed Terms- ***Covid -19, Conventional Classroom Teaching , E-learning , Google Classroom, Ministry of Education, Polytechnics.***

I. INTRODUCTION

As the whole wide world is battling the novel covid -19 pandemic which has affected millions of people all over the world with more than 23 million confirmed case and over 814 thousand death in 188 countries (Al Jazeera News, August 26, 2020), most Governments around the globe have temporarily closed educational institutions to control the spread of the pandemic. On 27th February 2020 the Federal Ministry of Health announced the confirmation of the first case of Corona virus disease in Lagos State, Nigeria since the beginning of the outbreak in China in January 2020. On March 19th, 2020 a circular from Federal Ministry of Education has granted an approval for the closure of all school for a period of one (1) month commencing from Monday 23rd March 2020 to prevent the spread of the Corona virus (COVID19). All the schools in Nigeria, both private and public hurryingly closed the schools in compliance with the order from the government. As the number of cases of covid -19 infection increases, the federal ministry of education later announced indefinite extension of the closure. This was the beginning of the dwindling of education sector amid covid -19 pandemic in Nigeria**.** The closure of schools affect close to 46 million students throughout the country of which most of the students are not use to digital education.

The Federal government through the ministry of education devised a means by which the students during the lockdown can continue learning without physically present in classrooms. Consequently, "E-learning was recommended as an alternative to classroom teaching-learning process as UNESCO is supporting countries in their efforts to slower the immediate impact of school closures particularly for more vulnerable and disadvantaged communities by

facilitating the continuity of education for all through remote learning. The World Bank is also collaborating with ministries of education in several countries in support of their efforts to utilize educational technologies amid the pandemic lockdown so that students at all levels can embark on e- learning.

All over the world, e-learning is seen as not only an alternative to physical classroom learning but an opportunity to access vast amount of information using the lockdown period as an opportunity to use various resources available on internet learn what wouldn't have been possible in the normal classroom. From researches findings, many students prefer online learning to conventional classroom learning. For instance in China learners **"**felt happy due to utilization of time in attending online classes during the lockdown period. Initially, faced some difficulty in joining online classes but got acquainted later on" (Pravat K. J., 2020) .

Unfortunately, Nigerian polytechnic students are still lagging behind in the field of e-learning in spite government's unflinching effort in providing various online platforms for effective learning amid covid -19 lockdown. Could it be as a result poor network system, or cost of subscription or as a result of lack of encouragement from schools and facilitators? It is against this background this study seeks to investigate the challenges of e-learning amid covid -19 lockdown in Nigerian polytechnics.

II. BRIEF HISTORY OF POLYTECHNIC IN NIGERIA

Polytechnic is a higher education institution that is established to focus on education concerning applied technology (Doern, 2008). Polytechnics are regarded as technological institutions that produce technological manpower for technological advancement of a country emphasizes personal development in the areas of teamwork, leadership, communication, practical problem-solving, critical thinking and analytical skills (Otache, 2019). According to Otache (2019),the Federal Government of Nigeria in realization of the role of polytechnic education in nation building upgraded the former technical colleges to the status of polytechnics. Thus, Yaba Technical Institute, Lagos, was renamed Yaba College of Technology in 1963; Technical College, Kaduna, became Kaduna Polytechnic in 1968; Technical College, Ibadan, became the Polytechnic Ibadan in 1970; Mid-Western College, Auchi, transformed to Auchi Polytechnic in 1972 and Technical College, Enugu, became Institute of Management and Technology (IMT) in 1973 (Awodi, 2019). Today in Nigeria, there are 29 federal polytechnics, 48 state polytechnics and 56 private polytechnics (Olusegun, 2020).

According to Federal Polytechnics Act (1979) the functions of the Federal Polytechnic shall be:

a) to provide full- or part-time courses of instruction/training; i. in technology, applied science, commerce and management, and ii. in such other fields of applied learning relevant to the need of the development of Nigeria in areas of industrial and agricultural production and distribution and for research in the development and adaptation of techniques as the Council may from time to time determine;
b) to arrange conferences, seminars and study groups relating to the fields of learning specified in paragraph (a) above; and
c) to perform such other functions as in the opinion of the Council may serve to promote the objectives of the polytechnic.

III. MEANING OF E-LEARNING

E-learning is part of the new dynamic that characterizes educational systems in the 21st century (Sangrà, Vlachopoulos, and Cabrera, 2012). In recent decades, the use of information and communication technologies (ICT) for educational purposes has increased, and the spread of network technologies has caused e-learning practices to evolve significantly (Kahiigi et al., 2008)

According to Sangra et al (2012),The evolution of distance education, as a result of new technologies and the contributions of computer scientists to the field of education along with the conceptualization of education as a lifelong process, poses a major challenge for educational institution especially the integration of these technologies into teaching situations. Guri-Rosenblit (2005), defined e-learning as "the use of electronic media for a variety of learning

purposes that range from add-on functions in conventional classrooms to full substitution for the face-to-face meetings by online encounters". (Koohang & Harman (2005) put e-learning as the delivery of all activities relevant to instructing, teaching and learning through various electronic media. Also, González-Videgaray (2007), considered e-learning as learning based on information and communication technologies with pedagogical interaction between students and the content, students and the instructors or among students through the web. According to the Ministry of Communication and Technology of New Zealand (2008), e -learning is learning facilitated by the use of digital tools and content that involves some form of interactivity, which may include online interaction between the learners and their teacher or peers.

IV. ROLE OF FEDERAL MINISTRY OF EDUCATION IN PROVIDING E-LEARNING PLATFORMS

The Ministry of Education (MOE) with Universal Basic Education (UBE) in Nigeria went ahead to develop a web page through the Task Team responsible for Coordinated Education response to COVID-19 pandemic to provide information, guidance, and resources to the 36 States and FCT for the continuing education and individualized learning of children at home. it is intended that the webpage will provide real-time guidance on learning resources and monitoring children at home in the period of the crisis. According to the ministry of education (2020), The Task Team has worked out a Learn at Home Programme (LHP) for ensuring the continuity of learning for all students through the lockdown period. Through the web page, information will be updated constantly on:

- The implementation of the LHP;
- The online resources and options available for uniformity and equity;
- Advisory on the choice of channels which will be left solely at the discretion of States
- Systems for monitoring and tracking performance of utilization of resources made available at contact, broadcast, and delivery levels.

The primary aim of e-learning portal is to equip the students for better performance in future examinations. Students' performances on previous exams are analyzed with the secondary aim of detecting the weaknesses and proffer a solution for all stakeholders concerned with Senior Secondary School Examinations. On this platform are resources for all WAEC approved subjects that will students understand the standards required for success in respective Examinations"(Federal ministry of education, 2020).The platforms provided by ministry of education for implementation of e-learning during the covid 19 pandemic are School gate learning service for Primary School Pupils, Mobile classroom application, Khan Adad, Unity schools virtual learning platform, ClassNotes, ULesson, Unicaf, Easyprep, StudyLab360, Teachme.ng, Lifelearners, and Google classroom.

Google Classroom is a free service for schools, non-profits, and anyone with a personal Google account. Google classroom makes it easy for learners and instructors to connect—inside and outside of schools. Classroom saves time and paper, and makes it easy to create classes, distribute assignments, communicate, and stay organized. Despite the efforts of the Federal Ministry of Education in partnership with Humanitarian bodies, there are a lot of challenges in the implementation of response to COVID19.

V. CHALLENGES OF E-LEANING IN NIGERIA

Anaekwe M., Nnaka C. (2017) found that inadequate infrastructure/instructional materials, human resources are some of the challenges of teaching and learning. The most common challenges of implementing e-learning with Nigerian Polytechnics are enumerated below.

- Lack of adequate planning for e-learning.
- School Management's Attitude.
- Poor Network.
- Adequate Expertise.
- Financial constrain.
- Resistance to Change.
- Population Explosion.
- Inadequate Electrical Power Supply.

- Inability to teach some courses online effectively particularly practical and technical courses.
- Teachers' nocturnal attitude towards self-development in ICT
- Lack of proper supervision and assessment

VI. ADVANTAGES OF E-LEARNING

- E-learning saves time and money
- E-learning builds capacity and ensures consistency
- High learning retention because it gives opportunity for coursework to be refreshed and intermittently.
- It encourages active learning since it involves hand-on learning as contrast to normal classroom learning wher students simply listen to teacher passively.
- It is easily measurable using a learning management system to track learners' progress
- It's flexible as individual learners go at their pace.

VII. STATEMENT OF PROBLEM

There seems to be a resistance to adopting e-learning amid covid -19 lockdown in spite the global grasping for digital education during the covid -19 pandemic, encouragement from World bank, UNESCO, Private Organization and prominent roles being played by federal government in launching, and implementation of e-learning at all levels of education in Nigeria. Could it be as a result of poor internet network system in Nigeria or as a result of high cost of accessing the internet or as a result of ICT infrastructures? Several researches have been conducted on e-learning in Nigerian, problems and challenges of e-learning in Nigeria, but there are few or no researches have been carried out on the implementation and challenges of e-learning in Nigerian Polytechnics during the covid -19 lockdown. This study therefore is an attempt to investigate the level of implementation of e-learning and the challenges involve in the use of e-learning in Nigerian Polytechnics.

VIII. PURPOSE OF THE STUDY

The purpose of this study is to investigate the challenges of e-learning in Nigerian Polytechnics during the covid -19 pandemic lockdown.
Specifically, this study sought to achieve the following:

1. To investigate the accessibility of internet to students for of e-learning during the covid -19 lockdown;
2. To determine students' interest to in e-learning during the covid -19 lockdown.

IX. RESEARCH QUESTIONS

These are the research questions guiding this study.

1. To what extent is internet accessible to students for e-leaning during the covid -19 lockdown?
2. To what extent are lecturers prepared for e-learning during the covid -19 lockdown?
3. To what extent are students interested in e-learning during the covid-19 lockdown?

X. METHODOLOGY

A descriptive survey design was used to carry out the study. The population of the study consisted of all federal polytechnics students in Nigeria. The sample area was Federal Polytechnic, Auchi, Edo state Nigeria. The sample was 24 students from federal polytechnic, Auchi.

A structured questionnaire was used as instrument of data collection and was administered to students online. A-5 point Likert type rating scale of Very Satisfy (VSA) Satisfied (SAT) Unsatisfied (UND) Dissatisfied (DIS) Highly dissatisfied (HDI) was used. The instrument used was titled "A Survey to investigate the challenges of e-learning during the covid -19 lockdown in Federal Polytechnics, Nigeria. The instrument consists of thirty (30) items based on the research questions. The researchers administered the questionnaire to 249 students online through Google classroom and only 24 responded. The data collected were analyzed on SPSS. The outputs display frequency distribution table showing the percentages of the responses.

XI. RESULT

The results of the study are presented in accordance with the research questions.

Answers to Questions One: To what extent is internet accessible to students for e-leaning during the covid -19 lockdown?

Table 1: Frequencies Variables=Location /order=analysis.

Location

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Urban	6	25.0	25.0	25.0
Rural	18	75.0	75.0	100.0
Total	24	100.0	100.0	

Source: SPSS Analysis

Table 2: Frequencies Variables= Degree of Satisfaction with Cell phones for Accessing Internet /order=analysis.

Cell phone for accessing internet

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Dissatisfied	9	37.5	37.5	37.5
Undecided	1	4.2	4.2	41.7
Satisfied	12	50.0	50.0	91.7
Very satisfied	2	8.3	8.3	100.0
Total	24	100.0	100.0	

Source: SPSS Analysis

Table 3: Frequencies Variables= Degree of Satisfaction with Regularity of electricity /order=analysis.

Regularity of electricity

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Highly dissatisfied	2	8.3	8.3	8.3
Unsatisfied	16	66.7	66.7	75.0
Undecided	1	4.2	4.2	79.2
Satisfied	4	16.7	16.7	95.8
Very satisfied	1	4.2	4.2	100.0
Total	24	100.0	100.0	

Source: SPSS Analysis

From table 1 above, the SPSS for location shows that 75% of the students are from rural areas without or with poor internet connectivity and epileptic electrical power supply.

From SPSS output in fig 2, 58.3% of the students are satisfied with their cell phones for accessing internet and 45.9% of the students were satisfied with the strength of the internet.

In table 3 above, 76% of the students were not satisfied with electrical power supply for charging cell phones or computers used for e-learning and this posses a great challenge to e-learning.

Answers Questions Two: To what extent are lecturers prepared for e-learning during the covid -19 lockdown?

Table 4: Frequencies Variables= Degree of Satisfaction with Lecturers' preparedness for e-learning /order=analysis

Lecturers preparedness

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Dissatisfied	8	33.3	33.3	33.3
Satisfied	15	62.5	62.5	95.8
Very satisfied	1	4.2	4.2	100.0
Total	24	100.0	100.0	

Source: Source: SPSS Analysis

Table 5: Frequencies Variables= Degree of Satisfaction with Lecturers' methods of teaching /order=analysis

Lecturers' methods of teaching

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Highly dissatisfied	1	4.2	4.2	4.2
Dissatisfied	10	41.7	41.7	45.8
Undecided	1	4.2	4.2	50.0
Satisfied	11	45.8	45.8	95.8
Very satisfied	1	4.2	4.2	100.0
Total	24	100.0	100.0	

Source: Source: SPSS Analysis

Table 6: Frequencies Variables= Degree of Satisfaction with Regularity of lecturers to e-learning /order=analysis

Regularity of lecturers to e-learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly dissatisfied	2	8.3	8.3	8.3
	Dissatisfied	17	70.8	70.8	79.2
	Undecided	1	4.2	4.2	83.3
	Satisfied	4	16.7	16.7	100.0
	Total	24	100.0	100.0	

Source: Source: SPSS Analysis

Table 7: Frequencies Variables= Degree of Satisfaction with Lecturers' level of understanding of e-learning/order=analysis

Lecturers' level of understanding of e-learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dissatisfied	10	41.7	41.7	41.7
	Undecided	1	4.2	4.2	45.8
	Satisfied	12	50.0	50.0	95.8
	Highly satisfied	1	4.2	4.2	100.0
	Total	24	100.0	100.0	

Source: Source: SPSS Analysis

From SPSS output in Table 4, 66.8% of the students said that lecturers are adequately prepared for e-learning.

From table 5 above, 50% said they were satisfied with lecturers' methods of teaching.

From table 6 above, only 16.7% of the students were satisfied with lecturers' regularity to e-learning class and from table 7, 54.2% said their lectures have high level of understanding of e-learning.

Answers Questions Three*:* To what extent are students interested in e-learning during the covid-19 lockdown?

Table 8: FREQUENCIES VARIABLES= Students constantly attending e-learning class/ORDER=ANALYSIS.

Students constantly attending e-learning class

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	10	41.7	41.7	41.7
	Undecided	8	33.3	33.3	75.0
	Agree	3	12.5	12.5	87.5
	Strongly agree	3	12.5	12.5	100.0
	Total	24	100.0	100.0	

Source: Source: SPSS Analysis

Table 9: FREQUENCIES VARIABLES= Students' Preferring e-learning to normal class attendance of e-learning class/ORDER=ANALYSIS

Question 23 Preferring e-learning to normal class

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	12	50.0	50.0	50.0
	Disagree	3	12.5	12.5	62.5
	Undecided	4	16.7	16.7	79.2
	Agree	3	12.5	12.5	91.7
	Strongly agree	2	8.3	8.3	100.0
	Total	24	100.0	100.0	

Source: Source: SPSS Analysis

Table 10: FREQUENCIES VARIABLES= Students Spending enough time learning during lockdown /ORDER=ANALYSIS

Spending enough time learning during lockdown

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	12.5	12.5	12.5
	Disagree	9	37.5	37.5	50.0
	Undecided	3	12.5	12.5	62.5
	Agree	7	29.2	29.2	91.7
	Strongly agree	2	8.3	8.3	100.0
	Total	24	100.0	100.0	

Source: Source: SPSS Analysis

Table 11: FREQUENCIES VARIABLES= Students' tendency to continue with e-learning if megabit is free Spending enough time learning during lockdown /ORDER=ANALYSIS

Tendency to continue with e-learning if megabit is free

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	16.7	16.7	16.7
	Disagree	2	8.3	8.3	25.0
	Undecided	1	4.2	4.2	29.2
	Agree	11	45.8	45.8	75.0
	Strongly agree	6	25.0	25.0	100.0
	Total	24	100.0	100.0	

Source: Source: SPSS Analysis

Table 12: FREQUENCIES VARIABLES= Students Continuity with e-learning when lockdown is over /ORDER=ANALYSIS

Continuity with e-learning when lockdown is over

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	17	70.8	70.8	70.8
	Disagree	4	16.7	16.7	87.5
	Undecided	1	4.2	4.2	91.7
	Agree	2	8.3	8.3	100.0
	Total	24	100.0	100.0	

Source: Source: SPSS Analysis

Table 8 above revealed that 25% of students were constantly attending the e-learning class; though many started initially but majority dropped out for lack of interest, inability to fund subscription bill, and lack of regular supply of electricity. This is contrasts to the finding in China by Pravat K. J. (2020) where the learners **"**felt happy due to utilization of time in attending online classes during the lockdown period. Initially, faced some difficulty in joining online classes but got acquainted later on".

Table 9 above, only 28.8% of the students prefer e-learning to conventional classroom.

Table 10 shows only 37.5% of the students spend enough time on internet studying during the lockdown since they are not interested.

From table 11, 70.8% of the students would like to continue with e-learning if subscription fee is free.

Table 12 revealed only 8.3% of the students would like to continue with e-learning even when lockdown is over.

CONCLUSION

Based on the analysis of data the following findings emerged:

Most of the students are from rural areas without or with poor internet connectivity and epileptic electrical power and these posses great challenges to e-learning.

Lecturers are adequately prepared for e-learning with good methods and have high level of understanding of e-learning but many of them are not regular to e-learning.

Students have luck warmness attitude towards e-learning class as majority of them that started with e-learning dropped out due to inability to fund subscription bill and lack of regular supply of electricity. This is contrasts to the finding in China by Pravat K. J. (2020) where the learners **"**felt happy due to utilization of time in attending online classes during the lockdown period. Initially, faced some difficulty in joining online classes but got acquainted later on". Students are not willing to continue with e-learning but if the subscription for internet is free with regular supply of electricity, e-learning would be a welcomed method to supplement conventional classroom lectures

RECOMMENDATION

Based on the findings, the following recommendations are made.

Further studies should be conducted on the challenges of e-learning on the same population but with a larger sample size.

It is suggested that the government should provide free access to internet to enable both the privileged and underprivileged, urban and rural students have equal access to e-learning

It is recommended that the schools should encourage and motivate the facilitators to be committed to their duties online in order to encourage students' participation in e-learning during and after the lockdown

REFERENCES

[1] Anaekwe M., Nnaka C. (2017) Challenges of Teaching and Learning Science at a Distance in National Open University of Nigeria. In: Maringe F., Ojo E. (eds) Sustainable Transformation in African Higher Education. Sense Publishers, Rotterdam. https://doi.org/10.1007/978-94-6300-902-7_14

[2] Awodi, Y. W. (2019). Polytechnic education in Nigeria: opportunities for wealth and job creation, the journey so far, paper presented at the 24th Convovation ceremony of the Federal Polytechnic, Idah, Kogi State, Nigeria, on 11thMa

[3] Guri-Rosenblit, Sarah. (2005). 'Distance education' and 'e-learning': Not the same thing. Higher Education. 49. 467-493. 10.1007/s10734-004-0040-0.

[4] Koohang, A., & Durante, A. (2003). Learners' perceptions toward the Web-based distance learning activities/assignments portion of an undergraduate hybrid instructional model. Journal Information Technology Education, 2, 106-113. Retrieved September 21, 2005 from http://www.jite.org/documents/Vol2/v2p105-113-78.pdf

[5] Olusegun, F. (2020) My School Gist Modified 5th June, 2020. From https://www.myschoolgist.com/ng/list-of-accredited-polytechnics-in-nigeria/

[6] Otache, Innocent. (2019). The dillema of polytechnic education in Nigeria: the way forward. Link: https://www.researchgate.net/publication/337474668_The_dillema_of_polytechnic_education_in_Nigeria_the_way_forward

[7] Pravat Kumar Jena (2020). Online Learning During Lockdown Period for Covid-19 In India International journal Of Multidisciplinary educational research ISSN:2277-7881; IMPACT FACTOR :6.514(2020); IC VALUE:5.16; ISI VALUE:2.286 Peer Reviewed: VOLUME:9, ISSUE:5(8), MAY:2020

[8] Sanmi, A, Adebayo, A.A (2014). Appraisal of E-learning structure in Nigerian Polytechnics: A Case study of Federal Polytechnic, Ado Ekiti IOSR Journal of Mobile Computing & Application (IOSR-JMCA) e-ISSN: 2394-0050, P-ISSN: 2394-0042.Volume 1, Issue 1 (May. - Jun 2014), PP 34-38 www.iosrjournals.org

[9] Sangra, A., Vlachopoulos, D. & Cabrera, N. (2012). Building an Inclusive Definition of E-Learning: An Approach to the Conceptual Framework. From: http://www.irrodl.org/index.php/irrodl/article/view/1161/2146