# MANAGEMENT OF EDUCATIONAL CHALLENGES OF E-LEARNING APPLICATIONS AT PUBLIC TERTIARY INSTITUTIONS DURING AND POST COVID-19 ERA

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## Article Info

## Abstract

COVID-19 has wreaked havoc on the majority of the world's economies. In most nations throughout the world, education is the only industry that has totally transmitted to online form. During the pandemic online learning was the best option for continuing education, particularly in post-secondary education. The first quarter of 2020 was a difficult time for the global community. The Coronavirus (COVID-19) pandemic that swept the world affected many aspects of human endeavour, from the decline in industrial production to the readjustment of the academic calendars of all educational institutions worldwide. Efforts to reform education as a result of the prolonged lockdown compelled the government to impose e-learning in tertiary institutions across the country. It is important to note, however, that these directions did not result in significant change due to inadequate infrastructure and network management. As a result, this study evaluated compliance with e-learning during the COVID-19 pandemic shutdown in Nigeria's tertiary institutions in relation to education factors and constrains faced. Through an online Google form, a systematic selection approach was used to choose 388 respondents from various institutions across Nigeria. This study discovered the educational variables are significantly related to e-learning compliance, with academic attainment serving as the major predictor. It was also discovered that there was variation in e-learning compliance across the selected public tertiary institutions, indicating that e-learning has been effectively incorporated into tertiary education in Nigeria, public universities which had forced long break, has the lowest of e-learning compliance during the COVID-19 pandemic, which can be attributed to lack of connectivity. Data limit, poor data speed, little/no face to face interaction, intense requirement for self-discipline, lack of a multiplier of device, poor learning. The limitations impede compliance with e-learning, which would have a multiplier effect on academic progress at the institutions and might and might further widen the nation's socio-economic skills gap, both on management and academic provisions. The study's findings will be very useful to university administrators and management in making future emergency choices on the deployment on online learning programs for students from various backgrounds.

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**Introduction**

The coronavirus disease 2019 (COVID-19) was discovered in China in December 2019, spread quickly around the world, and was designated a pandemic by the World Health Organization (WHO) on March 11, 2020. Universities throughout the world were forced to close their campuses in the spring of 2020 and move all academic programs online (Bao, 2020 Pinaki, online education. This is a widespread issue in Sub-Sahara Africa's teaching and learning development systems. The high degree of illiteracy and insufficient infrastructure causes educational growth to stagnate. "We have never seen such widespread educational interruption before", said UNESCO Director-General Audrey Azoulay (2020). The Coronavirus outbreak has thrown the etire academic calendar into chaos (John, 2020). Most schools, from elementary to university, have closed their doors, and children have gone home to their parents, where they have self-quarantined (UNESCO, 2020).

The current coronavirus outbreak (COVID-19) has exacerbated the situation and has taken a tool on all socio-economic sectors, including Nigeria's educational system. During the lockdown, many female students were raped, which resulted in unplanned pregnancies, and there were even reports of deaths. For example, a female undergraduate student of Laboratory Technology Department, Federal College Animal and Production Technology, Moor Plantation Ibadan, Oyo State was raped to death (Ajayi, 2020, Wasiu, et al., 2020); similarly a female undergraduate student of University of Benin City, Edo State was gang-raped and killed (Ajayi, 2020); Wasiu, et al, 2020), and another rape and murder case of postgraduate student of University of Ibadan occurred during the pandemic (Omonobi, et al, 2020, Wasiu, et, el., 2020).

The majority of academic leaders are now advocating for online education as a solution to the issue (UNESCO, 2020). It is critical to recognize that online education is not a one-size-fits-all replacement for face-to-face instruction (John, 2020). Over the last decade, larger institutions have increasingly moved their programs online, eliminating the need for face-to-face instruction. (Bao, 2020). Top institutions throughout the world, including Tsinghua, Peking University, Harvard, MIT, Yale, and Cambridge are heading in this direction (Bao, 2020, Picciano, 20217), John, 2020). In the same vein, the management of GO-UNI Enugu, Nigeria, a private institution innovated on-line.

Furthermore, the lockdown highlighted the country's inadequate health infrastructure, created economic depression, and aggravated the country's unemployment and insecurity condition (Wasiu, et. Al, 2020). Banditry, abduction, robbery, and terrorist acts as by Boko-Haram are on the increase. According to the National Centre for control and prevention, the number of persons afflicted from 407 to 48.569 from February to September 20, 2020, with 1,098 fatalities (Nigeria Centre for Disease and Control, 2020: Wasiu, et al, 2020). According to Bao (2020) and Filius et al, (2019), moving completely online necessitates extensive planning and investment from all sectors. So, if he university has not previously taken students and instructors through online teaching training, then they may not have enough resources, including recording platforms both on campus and at home (Yang & Li, 2018, John, 2020).

As a result, when institutions decide to employ online teaching in current coronavirus (COVID-19) era, they should thoroughly assess the issue, such as uploading Power Point presentations for students to read does not constitute online teaching. Assume the institution has a powerful online platform and teachers can record and present content for students to access even from their homes, but, if students do not have access to these tools, such as a laptop/tablet or a good phone, they are trapped (Filius et al., 2019, John, 2020).

Eze et al (2018) define e-learning education as the all-encompassing incorporation of ICT devices and contemporary communications equipment into the educational system. E-learning, according to Andreas (2020) and Eze et al., (2018), is a distinguishing feature of distant learning. Digital technology addresses fundamental questions about what individuals learn, how they learn, and where and when they learn. Andreas (2020) went on

to say that technology allows instructors ad students to access specialized resources that go beyond textbooks, in a variety of forms, and in ways that span time and place. Meanwhile Edward and Lucian (2020) said that e-learning is an innovative platform for conveying information and skills to learners since it is inexpensive, saves time, has a broader coverage and promotes team learning and cooperation. Andreas (2020) stated that technology fosters deep learning and helps schools to better adapt to kinds diverse requiremets (Wasiu, et al, 2020).

Nigeria joined industrialized nations in incorporating e-learning into the school system in order to minimize brain drain and prevent the entire collapse of the country's education industry. Although Nigeria Open University uses e-learning to offer lectures and assign homework to students, this digitalization has not been fully utilized in many higher institutions around the country.

While COVID-19 has compelled Nigeria to adopt e-learning in order to stay up with fast technological progress, implementation has been slow. Changes are evident in the educational sector of advanced nations, since old teaching techniques have been changed into new ones (Kacerauskas and Kusaitye, 2020), Wasiu, et al, 2020). Students at the College learnt and studied with technology in sophisticated nations on a regular basis.

In Nigeria, the number of students enrolled in higher institutions out numbers the school's infrastructure. The high cost of ICT accessories, as well as a lack of qualified resource personnel, is among the issues restricting e-learning in Nigeria (Adeoye et al., 2020; Wasiu, et.al, 2020). Many Nigerian institutions find it challenging to develop and implement local e-learning initiatives (Wasiu, et.al, 2020). Because of the rapid advancements in technology, instruction has to be updated. They needdto learn at any time and from any location in order to succeed. (Wolfinger, 2016; M. Mahyoob, 2020).

This research focuses on the challenges and barriers faced by university students during the present worldwide pandemic, as well as the prospective facilities and solutions that may be provided in the future to address these issues. The current study is significant since it investigates the impact of the COVID-19 epidemic on the online learning process.

**2.0 Research Questions**

a)     How well do students understand the ('OVID-19 pandemic?

b)     What is the student's perception of the efficacy and credibility of online course content?

c)     What are the expected difficulties that students may face during online teaching and learning?

**3.0     The goal and Objectives of this research**

**3.1     The goal of this research**

Researchers have not experimentally studied the effect of educational factors of instructors and limitations on e-learning compliance during the COVID-19 epidemic. The goal of this research is to study the impact of COVID-19 on e-learning compliance, as well as the benefits and drawbacks of an e-learning plan for enhancing Nigeria's educational system.

**3.2 The Objectives of this research**

The objectives of this research are as follows:

a)     Perception of Participants Toward the Nature of COVID-19 Disease

b)     Examine the level of student's perception of the efficacy and credibility of online course content.

c)     Identify the challenges and obstacles of e-learning during the COVID-19.

**4.0     Study area Description**

Nigeria, officially the Federal Republic of Nigeria, is a West African countr5. It is bounded to the north by Niger, to the northeast by Chad, to the east by Cameroon, and to the west by Benin. Its southern shore lies on the Atlantic Ocean's Gulf of Guinea. Nigeria is a federal republic made up of 36 states and the Federal Capital Territory, which includes the capital, Abuja. Lagos, one of the world's major metropolitan regions, is the largest metropolis

in Nigeria and the African continent. Nigeria, with a population of 211 million people and an area of 923,769 square kilometers, is the most populous country in both West Africa and Africa. Nigeria is the world's 32nd biggest country in terms of land area and the 7th largest in terms of people. Nigeria is Africa's biggest Anglophone country and one of the world's most cosmopolitan and ethnically diverse countries. Nigeria is Africa's richest country in terms of nominal GDP, surpassing Egypt and South Africa, and it has the 27th highest nominal GDP.



**Figure 1: Study Area Map (Authors work, 2020)**

**4.1 Administrative divisions**

Nigeria is divided into thirty-six states and one Federal Capital Territory, which are subdivided further into 774 local government districts. In certain cases, the states are divided into six geopolitical zones: the North West, the North East, the North Central, the South West, the South East, and the South South.

**4.2 Climate**

Nigeria's terrain is diverse. The extreme south is distinguished by its tropical rainforest environment, with annual rainfall ranging from 60 to 80 inches (1,500 to 2,000 mm). The Obudu Plateau is located in the south-south. Coastal plains may be found in both the southwest and southeast of the States.  . Along the shore, mangrove wetlands can be found. The area along the Cameroonian border near the coast is rich in rainforest and is part of the Cross-Sanaga-Bioko coastal forests eco-region, an important biodiversity hotspot. It is home to the drill primate, which can only be found in the wild in this area and over the border in Cameroon.

**4.3 Economy**

Nigeria's mixed economy is the largest in Africa, the world's 26th largest by nominal GDP, and the 25th largest by PPP. With its vast natural resources, well-developed financial, legal, communications, and transportation industries, and Nigerian Stock Exchange, it is a lower- middle-income country. Years of military dictatorship, corruption, and incompetence have hampered economic progress. The restoration of democracy and follow up economic reforms should have effectively returned Nigeria to its full economic potential. Remittances sent home by Nigerians living abroad are the second-largest source of foreign exchange profits for Nigeria, after petroleum, and Valued Added Tax (VAT) returns.

**4.4 Education**

The Ministry of Education regulates education in Nigeria. Local governments are in charge of executing regional policies for state-controlled public education and state schools. Kindergarten, primary school, secondary education, and tertiary education are the four levels of education in the country. Six years of elementary school, three years of junior secondary school, three years of senior secondary school, and four, five, or six years of university study leading to a bachelor's degree comprise the education system. The government controls the majority of university education. In Nigeria, tertiary education is comprised of universities (both public and private), polytechnics, mono-technics, and colleges of education. There are 138 universities in the nation, including 40 federally operated, 39 state-owned and 59 privately owned.

## 4.5 Internet freedom

According to the National Bureau of Statistics, Nigeria has around 136,203,231 million internet users in 2020, out of a total population of 205,886,311. This means that by 2020. 66 percent of Nigerians will be linked to and actively utilizing the internet. Although Nigerians use the internet for education, social networking, and entertainment, it has also become a tool for mobilizing political demonstrations in the country, and by fraudsters for cyber-crimes.

## 5.0 Literature Review

This section summarizes past research in online learning with emphasis on those one during the COVID-19 crisis, as well as other studies relating to online learning problems and educational technology in general. In a basic education institution in Nigeria, a research needs to be undertaken to assess students as well as administrators' perspectives on the future of online learning in the aftermath of the current epidemic.

According to Eduard and Lucian (2020), e-learning is an innovative platform for conveying information and skills to learners; it is inexpensive, saves time, has a larger reach, and promotes team learning and cooperation. Andreas (2020) underlined that technology fosters deep learning and helps schools to better adapt to kids' diverse requirements.

According to Rajab, Mohamrnad, Gazal, & Alkattan, (2020), a study explored online learning challenges in medical education during the COVID-19 outbreak. The study included 208 participants, students, and faculty members from Alfaisal University's College of Medicine in Riyadh, Saudi Arabia. Communication, evaluation, online education experience, technology usage tools, time management, anxiety, and coronavirus illness stress were indicated as obstacles in the research.

According to UNESCO (2020), COVID-19 school closure attracts approximately 1.5 billion learners from 165 nations. This equates to 87 percent of the world's student population (John, 2020).

According to another survey conducted by Bao, (2020), many of these institutions have hurried to develop online programs in order to cover the gap that is expected to continue for the rest of the academic year in impacted locations. The epidemic has impacted not just Chinese students, but also students from other nations. Almost half million foreign students returned to their home countries and were forced to log in from their homes in order to continue learning and access the essential learning materials (Bao, 2020: John. 2020). Meanwhile, other countries across the world are looking for internet ways to keep their millions of students from returning to college as a result of the travel restriction. Higher education institutions in other impacted regions, including Italy, Iran, and Singapore, ere also compelled to halt study, close their campuses, and resort to online learning rather than in-person instruction.

According to another survey conducted by Picciano, 2017; Wang & Hu,(2019), The findings give a plethora of reasons why pupils are more likely to study well through online education. According to the surveys, students now have more influence over their academics and more opportunity for reflection. According to reports, effective online students are organized and self-starters who can complete their work without direct supervision.

Wasiu el. al (2020), in the paper titled, Prospects and limitations of e-learning application in private tertiary institutions amidst COVID-l9 lockdown in Nigeria. The study concludes that COVID-19 impacted positively on the educational process, unlike the physical chalkboard in the classrooms. The outbreak and fast spread of the COVID-19 led to the close down of schools. Efforts to revamp education due to prolong lockdown made the government enforce e-learning in tertiary institutions across the country. It is however worthy to know that these directives did not make much change as a result of poor infrastructure and networking. Hence, this study concludes that constraints are major obstacles to the compliance and prospects of e-learning in the Private Tertiary Institutions in Nigeria.

John Demuyakor, (2020), quoted that he implementation of online learning programs was a very great idea as the majority of the sampled students supported the initiative. The study also revealed that students have adequate knowledge of the COVID-l9 pandemic. Another finding that came up during the research is the high cost of participating in online learning. However, our results showed that students outside China due to the COVID-19 spend so much money to buy internet data for online learning. Last but not least, the study discovered that internet connectivity was very slow for students leaving within the dormitories of various universities in China.

Mohammad Mahyoob, (2020) carried out an analysis on the Challenges of e-Learning during the COVID-l9 Pandemic Experienced by English language learners. The contribution of this study is to evaluate the learners' new experiences in online education and to assess the feasibility of the virtual methods of learning. This is achieved by analyzing 1 84 learners' responses to the survey-based questionnaire. A descriptive statistical method %as used to test the validation of the study. It was found that the main problems that influence and impact online EFL learning during COVID-l9 are related to technical, academic, and communication challenges. The study results show that most EFL learners are not satisfied with continuing online learning, as they could not fulfill the expected progress in language learning performance.

Pinaki Chakraborty et al (2020) in another article titled, opinion of students on online education during the COVID-19) pandemic. The universities were not prepared for such a transition and their online teaching learning process evolved gradually. A question survey was conducted in which they asked undergraduate students in an Indian university about their opinion on different aspects of online education during the ongoing pandemic. We received responses from 358 students. The students felt that they learn better in physical classrooms (65.9%) and by attending MOOCs (39.9%) than through online education. The students, however, felt that the professors have improved their online teaching skills since the beginning of the pandemic (68.1%) and online education is useful right now (77.9%). The students appreciated the software and online study materials being used to support online education. However, the students felt that online education is stressful and affecting their health and social life. This pandemic has led to a widespread adoption of online education and the lessons we learn now will be helpful in the future.

Finally, Flora M.K (2018) carried out a thesis on the Effectiveness of ICT Teachers' Training Programmes in Enhancing Teaching and Learning of Environmental Education in Selected Primary Schools in Musoma District. The study adopted a case study research design employing both qualitative and quantitative approach. A total of 227 respondents drawn from 09 primary schools in Musoma district participated in the study, of whom 27 were teachers and 180 were pupils. The study suggests for the sufficient ICT training programmes that will merge both the theoretical and practical parts of the training. In addition, the ICT trainings need to have definite content to be covered. It is also important for increasing supply of ICT facilities in schools for enhancing the integration of ICT in the EE teaching and learning processes to facilitate the ongoing struggle to preserve the environment for sustainable development.

From the fore mentioned researches, it can be seen that different researchers carried out online learning analysis or studies to expose the causes, effect and consequence of the phenomenon on huma5 using several statistical technique. However, this research seeks to explore and analysed the effect of educational factors of instructors and limitations on e-learning compliance during the COVID-19 epidemic.

In order to address these gaps identified, the study will be used to assess the impact of these effects on people living within the area and examine the drivers of COVID-19 effects to online-learning in the study area. This information will enhance ones understanding of these disturbances within the area and the effects of these disturbances for effective decision making and risk management for comfort living.

## 6.0    Research method

This section discussed the types of data utilized, the sources of the data, the methods of data acquisition, equipment used, procedures apd the methodology employed for processing and analysing the data in this study. This study used a survey approach to obtain primary data on education characteristics, compliance, and barriers to e-learning in public tertiary institutions. Respondents demonstrated a willingness to offer responses to the questionnaire's questions.

This study utilized a designed online survey of public Nigerian students as participants. The rationale for using public Nigerian students is that online learning is not well developed in Nigeria. The majority of the pupils were accustomed to traditional face-to-face teaching and learning methods. Online surveys are one of the most efficient ways of reducing study costs while still obtaining .accurate data from the online community. The goal of this study was to determine how students in public students in Nigeria are reacting to the online learning implemented by all institutions of higher learning as a consequence of COVID-19.

## 6.1    Equipment used

The equipment used in this study are presented in Table 1.

Table 1: Materials used

| S/N | Instrument | Parameter | Model |
|-----|-----------|-----------|-------|
| 1 | Laptop | Hp | Pavilion G6 |

## 6.2    Software used

For the purpose of this research two types of software were used. Table 2 showed details of these software.

Table 2: Software used

| S/N | Software | Description |
|-----|----------|-------------|
| 1 | Math Type | Type Setting |

**Microsoft Office 2016:** This was used for presentation and Plotting of graph of the research under study.

Other sources of data utilized for this project includes:

i.        Materials available in academic journal, conferences, relevant texts, Gazettes, brochures, Internet and statistical files from some government offices.

## 6.3    Sampling

An online survey-based questionnaire was created for the study and data collection to assess the impact of online learning problems amid the extraordinary health and economic crises.

The survey-based questionnaire had 7 multiple-choice and open-ended questions (yes/no, multiple-choice, and open-ended questions) that addressed the study's goals. It was created using Google Forms and was given to students via WhatsApp groups towards the end of 2020. The questionnaire is divided into two sections: the first contains demographic information about students, and the second has a series of questions concerning learners' experiences with online learning platforms.

The sampled group consists of 400 students from three distinct WhatsApp groups. However, with 388 active members (people in the group who actively participate in commenting. asking questions, and providing other information in order for the group to remain active), all active participants were targeted for the survey. Before administering the e-survey to the participants, a request was made to both the group administrators and members on the purpose of the survey, and the link to the survey was given over the Whatsapp group platforms.

## 6.4    Overview of approach

Figure 2 describes the procedures adopted for this study. It also discussed the summary of the methodology that was employed for the study. The steps undertaken in the methodology are diagrammatically shown in figure 2. The data used in this research were acquired using Google form methods. The output includes integrated data such as the tables, charts and reports.
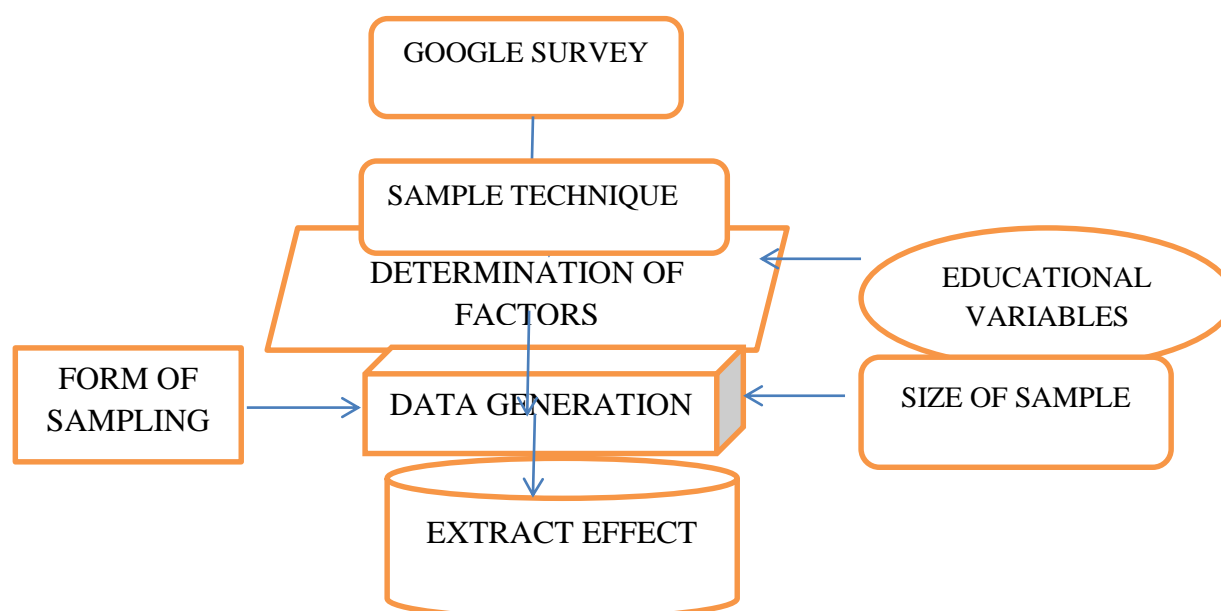


Figure 2:  Workshop Diagram of the Study. (Source: Authors work, 2020)

## 6.5    Method of data analysis

Data analysis for the study incorporates both descriptive and inferential statistical tools. Descriptive tools include charts, graphs, percentages and tables and the inferential tool includes the Microsoft office software.

## 7.0    Results

The research findings were thoroughly examined in light of the questions that were presented. The objective of the study was to evaluate the influence of Coronavirus (COVID-19) on Online Learning in Higher Educational Institutions. Data from questionnaires were coded and analyzed using Excel. The program was utilized for statistical analysis among the study's multiple measures of variables. During the study, 400 questionnaires were distributed to respondents, 388 of which were valid.

## 7.1    Administration of Questionnaire

The interviews were completed over the course of 20 days. The estimated population of the individual present in Whatsapp group was used to derive the questionnaire of the study. Based on this population, a total of 400 soft copies of the questionnaire designed in google form were produced and administered in the group. Out of the 400 questionnaire administered 388 were termed valid, during the administration of the online questionnaire. The researcher interacted with respondents on some of the challenges experienced in the country.

## 7.2    Age and Gender Analysis

The age distribution of respondents is shown in Table 3 of Figure 3. Out of the 388 valid surveys, 71 respondents (18% of total respondents) were between the ages of 1 8 and 29, 82 (21% of total respondents) were between the ages of 30 and 39, and 81 (21% of total respondents) were between the ages of 40 and 49. In addition, 88 respondents, or 23%, were between the ages of 50 and 59, and 66, or 1,7%, were between the ages of 60 and above.

Furthermore, Table 4 reveals that out of the 388 respondents, 231 were male, accounting for 60% of the total, while the remaining 157 were female, accounting for 40% of the total. These findings indicate that the surveys were distributed to persons of diverse ages. It also demonstrates that both men and women were fairly represented. The goal was to eliminate prejudice and guarantee that everyone had an opportunity to contribute to the data collection.

**Table 3: Age Analysis**

| Age | Count | Percentage |
|---|---|---|
| 18 – 29 | 71 | 18 |
| 30 – 39 | 82 | 21 |
| 40 – 49 | 81 | 21 |
| 50 – 59 | 88 | 23 |
| 60 and above | 66 | 17 |
| Total | 388 | 100 |

Source:  Authors work 2021
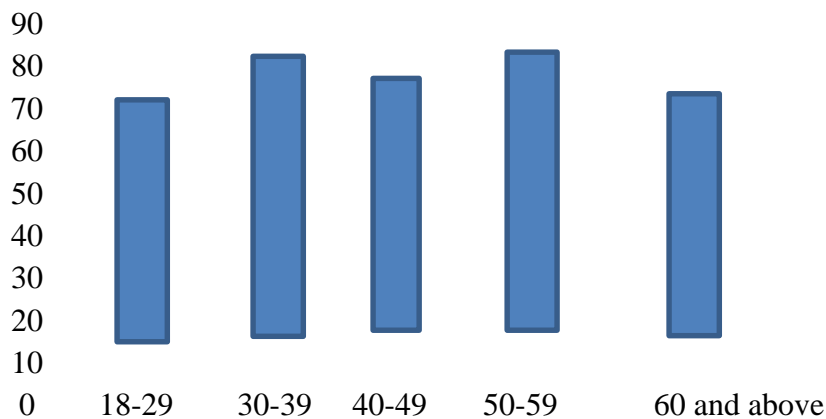


| | | | | |
|---|---|---|---|---|
| ▪ Number: | 71 | 82 | 81 | 88 | 66 |

Age

Figure 3:  Agee Analysis

Source:  Authors work, 2020

**Table 4: Sex Analysis**

| Sex | Count | Percentage |
|---|---|---|
| Male | 231 | 60 |
| Female | 157 | 40 |

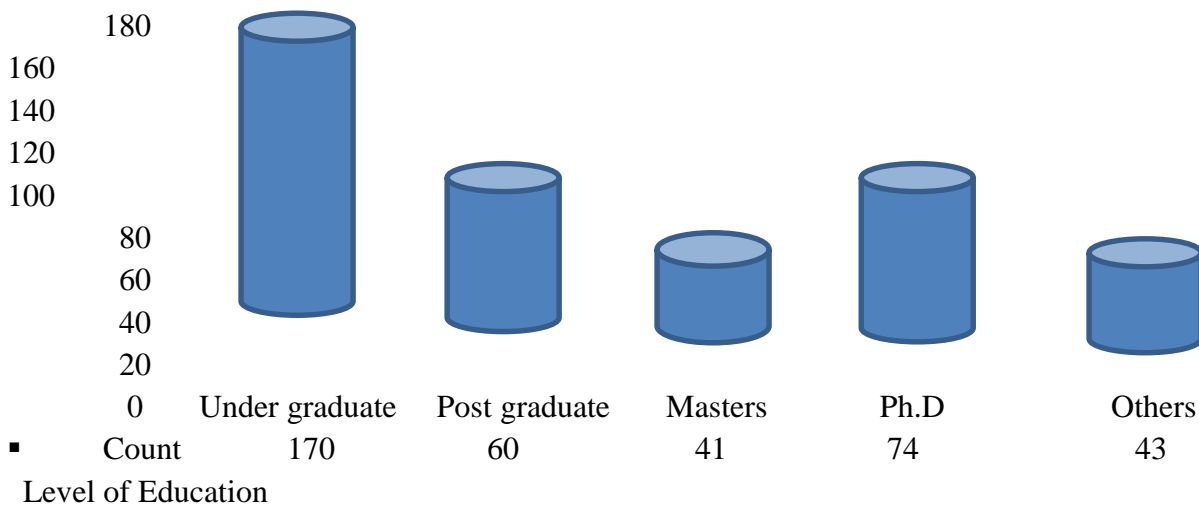| 0 | Female | Male |
|---|---|---|
| ▪ Count | 231 | 157 |
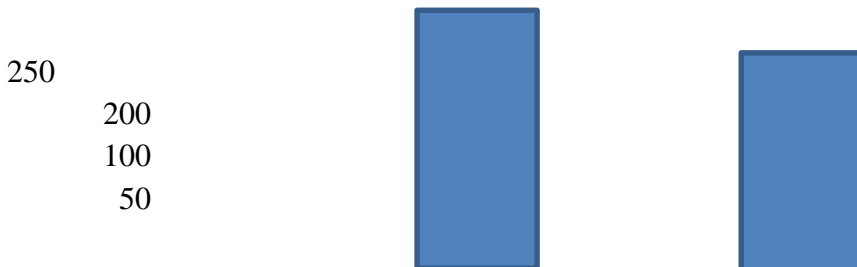
**Sex**

**Figure 4: Sex Analysis**

**Source:  Authors work, 2020**

**7.3     Level of Education Level**

In terms of educational level, table 5 of figure 5 shows that 74 percent (19) of those interviewed were undergraduates, while 15% were postgraduates (60).  Master's degrees are held by around 44 percent (170) of those polled.  Around 11% (41) of those interviewed held a Ph.D, while others accounted for 11% (43) of the total questionnaire administered.

Table 5:  Level of Education Analysis

| Level of Education | Count | Percentage |
|---|---|---|
| Under Graduates | 170 | 19 |
| Post Graduates | 60 | 15 |
| Masters | 41 | 44 |
| Ph.D | 74 | 11 |
| Others | 43 | 11 |
| Total | 388 | 100 |

| | Under graduate | Post graduate | Masters | Ph.D | Others |
|---|---|---|---|---|---|
| ▪ Count | 170 | 60 | 41 | 74 | 43 |

Level of Education

Figure 5:  Level of Education Analysis

Source:  Authors work:  2020

**7.4     Duration of Stay in the Institution**

The questionnaire results also reveal how long the respondents stayed in the institutions.  Out of the 388 respondents, 6% have stayed in the institutions for less than a year, 22% have stayed between 1 and 2 years, 23% have stayed between 3 and 4 years, 22% have stayed between 5 and 6 years, 19% have stayed between 7 and 8 years, and 8% have stayed between 8 years and above.  This distribution indicates that the surveys ware given to persons who and spent enough time in the institutions to have a decent understanding of the situation in the nation.  This also implies that the information obtained is genuine ad represents the scenarios in the area under study.

**Table 6:  Duration of stay in the study area**

| Duration of Stay | Count | Percentage |
|---|---|---|

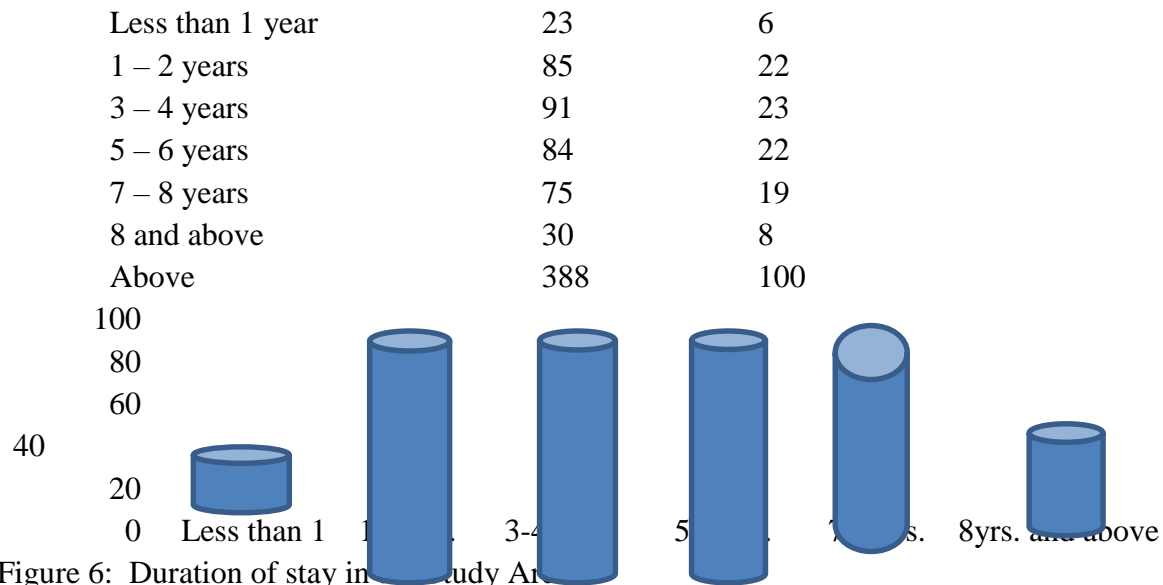| | | |
|---|---|---|
| Less than 1 year | 23 | 6 |
| 1 – 2 years | 85 | 22 |
| 3 – 4 years | 91 | 23 |
| 5 – 6 years | 84 | 22 |
| 7 – 8 years | 75 | 19 |
| 8 and above | 30 | 8 |
| Above | 388 | 100 |



Figure 6: Duration of stay in the Study Area

Source: Authors work, 2021

## 7.5 Perception of Participants toward the Nature of COVID-19 Disease

Table 7 of figure 7 summarizes participants' attitude regarding COVID-19. According to data analysis, more than half of the participants (247) believed that COVID-19 is a naturally occurring virus that causes a serious and potentially deadly disease, which agrees with the study of Omar F.K. et al (2020). The majority (204) did not believe that this sickness was caused by bacterial or that it was related to seasonal influenza. Surprisingly, more than one – third (162) of the tested population believed that the COVID – 19 virus was created in a lab, and more than half (310) believed that this was a disease transmitted to humans via a animal host.

Following the above, we were interested in testing the relationship between different demographic variables and perception of the participants toward COVID – 19. The result of this analysis are also shown in table 7. Current findings demonstrated that males were more likely to think that COVID-19 is a naturally occurring human virus. On the other hand, a lower percentage of participants felt that COVID-19 was a "punishment from God" and was a serious and fatal disease. Education also affected the perception toward COVID-19. According to data analysis, a higher number of individuals with only a high school diploma felt that COVID-19 was 1) manufactured in the lab, 2) a punishment from God, 3) caused by germs, or 4) severe and deadly.

## Table 7: Perception of Participants towards the Nature of COVID-19 Disease

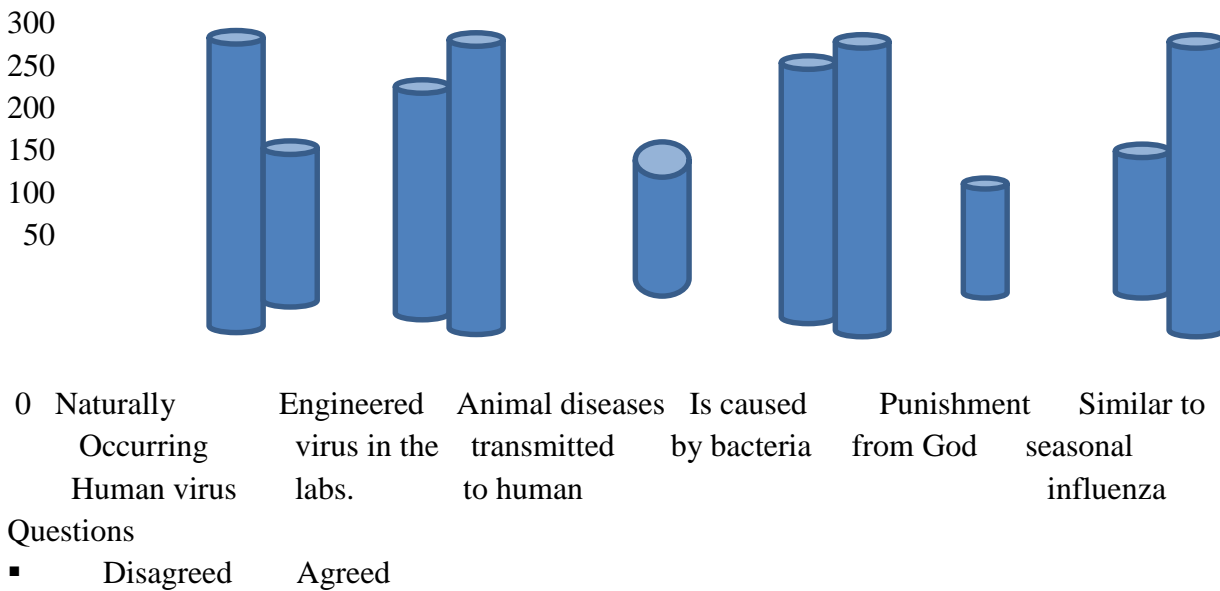| S/N | Questions | | Responses | |
|---|---|---|---|---|
| | | | Agreed | Disagreed |
| 1 | In your opinion, who is most susceptible to severe COVID-19 infection | Male | 251 | 137 |
| | | Female | 212 | 176 |
| 2 | In your opinion, COVID-19 disease is | Naturally occurring human virus | 247 | 141 |
| | | Engineered virus in thee labs | 162 | 226 |
| | | Animal disease transmitted to human | 310 | 78 |
| | | Is caused by bacteria | 184 | 204 |
| | | Punishment from God | 84 | 304 |
| | | Similar to seasonal influenza | 124 | 264 |

350

Figure 7: Perception of Participants toward the Nature of COVID-19 Diseases

## 7.6 Distribution of Students' Perception on Online Course Quality

To answer the first research question, descriptive statistics on students' perceptions of overall teaching quality, learning quality, course structure quality, and student support services quality were reported (see table 8). Data showed that students perceived the quality of online teaching (68.81%). Online learning (59.53%), course structure (75%), and student support (35.82%) at least met or exceeded their expectations. There were also 8.0% of the students that rated the quality of online teaching as extremely poor.

### Table 8: Distribution of Students' Perception on Online Course Quality

| | Online teaching | | Online learning | | Course structure | | Student support | |
|---|---|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % | Count | % |
| Extremely poor | 31 | 7.99 | 35 | 9.02 | 23 | 5.93 | 45 | 11.60 |
| Below Average | 48 | 12.37 | 58 | 14.95 | 53 | 13.66 | 80 | 20.62 |
| Average | 42 | 10.82 | 64 | 16.49 | 21 | 5.41 | 124 | 31.96 |
| Above Average | 110 | 28.35 | 86 | 22.16 | 124 | 31.96 | 65 | 16.75 |
| Excellent | 157 | 40.46 | 145 | 37.37 | 167 | 43.04 | 74 | 1907 |
| Total | 388 | 100.00 | 388 | 100.00 | 388 | 100.00 | 388 | 100.00 |



Responses

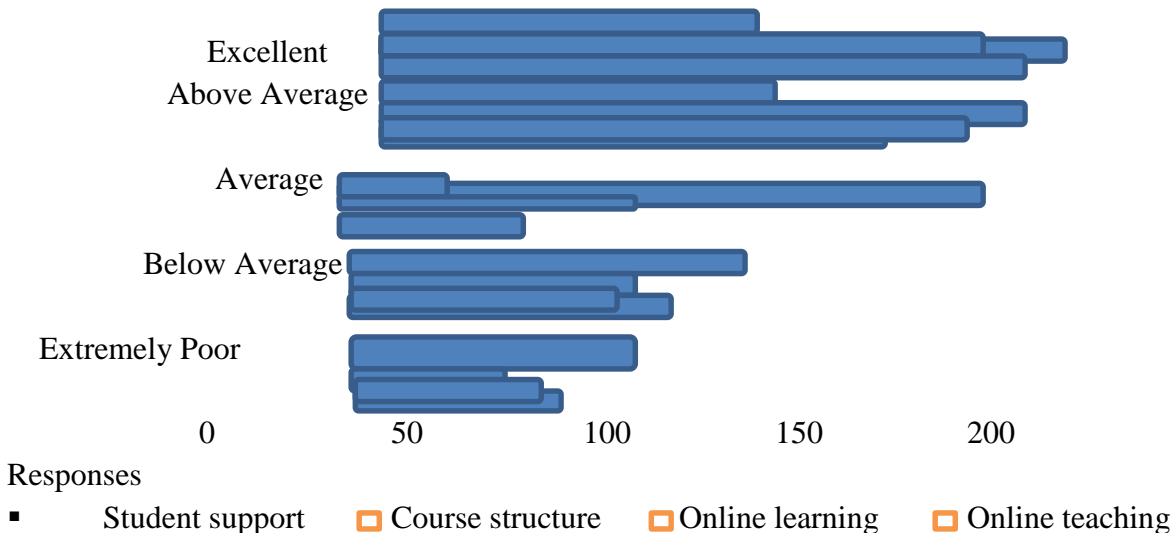- Student support    □ Course structure    □ Online learning    □ Online teaching

Figure 8: Distribution of Students' Perception on Online Course Quality

## 7.7 Factors affecting Success of Online Classes

Results of the study indicate that online education offers students the opportunity to study at their own pace ad time of their convenience. Hence, table 9 of figure 9 indicates that lack of connectivity was ranked as the major hindrance in online learning. The findings highlights the Nigeria digital distribute and lack of fairness in access to uninterrupted interest providing to be a hassle to many students.

The second and third constraints were data limit and data speed which were again the limitations of interest infrastructure. These give us an insight that if any country wants to move towards online education then as a pre-requisite it should focus on its internet facilities. Lack of traditional way of direct interactions in classrooms is also a major concern along with those mentioned above in conducting online classes.

Table 9: Bottlenecks in online learning

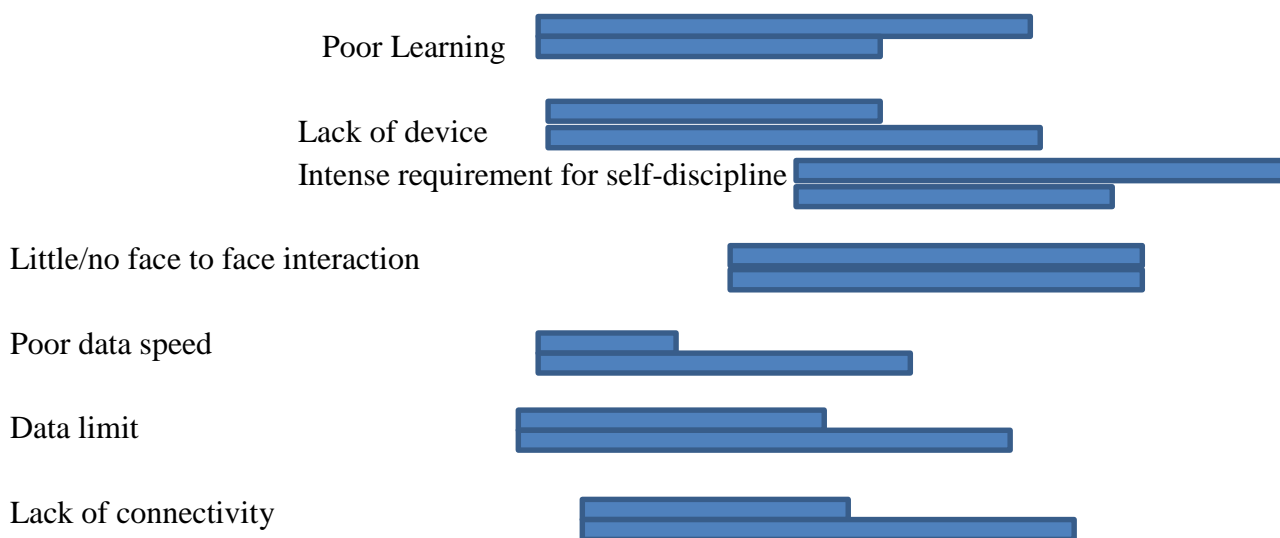| Constraints of online learning | Yes | No |
|---|---|---|
| Lack of connectivity | 311 | 77 |
| Data limit | 252 | 136 |
| Poor data speed | 321 | 67 |
| Little/no face to interaction | 193 | 195 |
| Intense requirement for self-discipline | 157 | 231 |
| Lack of device | 242 | 146 |
| Poor learning | 142 | 246 |

Figure 9: Bottlenecks in online learning

## THE RETURN OF BOOKS IN SCHOOLS

Latest reports from Sweden show a swing back to use to books in schools. The government Sweden voted for correcting the sociological health and learning drainage due to heavy reliance on technology through laptops usage.

## 8.0 Conclusion

Globally, information technology helps teachers and learners to participate cooperatively in the teaching learning process. It broadens their thinking, knowledge and enables them to perform various educational activities in the educational sector. Various kinds of technologies both hardware and software makes the teaching-learning process more interesting. Use of the advanced technologies has a tremendous scope in improving the products and processes of education.

For a long time, online education has been on the outskirts. The COVID-19 epidemic brought it to the forefront of public attention. During the COVID-19 epidemic, we ran a survey to learn about the perspectives of students at institutions across Nigeria on several elements of online education.

This study found that educational factors are substantially connected to e-learning compliance with academic achievement serving as a primary predictor. It was also discovered that there was variation in e-learning has not been effectively incorporated into tertiary institutions, indicating that e-learning has not been effectively incorporated into tertiary education in Nigeria, public universities had the lowest level of e-learning compliance during the COVID-19 pandemic, which can be attributed to lack of connectivity. Data limit, poor data speed, little/no face to face interaction, intense requirement for self-discipline, lack of device, poor learning. The constraints impede compliance with e-learning, which would have a multiplicative effect on academic development at the institutions ad might further create a socio-economic skills gap for the nation.

We discovered that students see online education as a feasible option given the current conditions. However, we believe there is room for development. Lecturers should work to improve student acceptance of online education. Educators, students, school officials, and administrators, parents, among other stakeholders, have clearly faced several problems as a result of online learning during COVID-19. As previously stated, the challenges have been linked to limited technological infrastructure and capacity, a lack of experience and incompatibility with certain subject matters or cultures.

For the first time, the COVID-19 pandemic has resulted in widespread acceptance of online education on a global scale. The lessons we learn about online education during this pandemic will be useful during future exigencies.

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