

EFFECT OF COVID-19 PANDEMIC ON CURRICULUM DELIVERY IN HIGHER EDUCATION

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Abstract

The global outbreak of the COVID 19 pandemic led to the closure of Nigerian education institutions by the Federal Ministry of Education (FME) on March 19, 2020, due to its ravaging effect on every sphere of life. Education Stakeholders had to adjust to the 'new normal despite the negative impact of the pandemic on sources of livelihood, the global economy as well as the disruption of education. Notwithstanding the already fragile nature of the higher institutions in Nigeria which is faced with incessant strikes, changes in teaching and learning methods, disruption in the routine of parents and access to educational-related services, lack of basic facilities and infrastructure, and crisis management issues between the state and federal ministries of education, then the emergence of the COVID-19 pandemic. This paper assesses the impact of the COVID-19 pandemic on higher education highlighting the opportunities that have been created by the pandemic which can be harnessed by higher institutions in meeting the goals and objectives of education. Among other recommendations, there is a need for the development of a national blueprint and implementation plan that will cater for a reduction in the cost of data/bandwidth for learners and online courseware development, intensive capacity-building programs to help teachers cope with the latest technology, cheap internet services, practical based learning as well as the need for relevant education stakeholders to intensify investment in remote learning tools that are unique to the Nigerian environment.

Keywords: Curriculum Delivery, COVID 19 Pandemic, Higher Education

Introduction

The Nigerian state rose to the reality of the COVID-19 pandemic when the first case was recorded on 27th February 2020; by the arrival of an Italian citizen to Nigeria through Murtala Muhammed International Airport on 26th February. The result of the COVID-19 test carried out on him tested positive a day after developing a mild illness (Maclean & Dahir, 2020; Edeh et al., 2020). According to UNESCO (2020) China, been the country where the COVID-19 pandemic outbreak was first recorded was the first to shut down schools in mid-February 2020, followed by neighboring countries such as Mongolia. Subsequently, about a month later, most schools across the Asia, Americas, and Europe were closed while schools in Africa followed. However, all countries had enacted the complete closure of schools by the end of March. Consequently, due to growing concerns, the federal government on the 19th March 2020, ordered that all learning institutions in the country be shut down as a means of curtailing/managing the widespread of the

virus (EiEWG, 2020). The ravaging effect of the pandemic did not leave other sectors of the economy untouched as most sectors of the country's economy and business activities ceased functioning effectively as some were put on hold indefinitely.

The period of temporary school closure had a far-reaching effect on higher education despite other issues confronting higher institutions in Nigeria such as inadequate funding, unstable and archaic curriculum and syllabus, inadequate basic infrastructure, unqualified and untrained teachers, falsification of academic records and certificates, absence of inclusion for students with disabilities, examination malpractice, academic fraud, sex for grade scandals, gender disparity and discrimination, location of schools at distances that are far from the learners, unavailability of learning resources and teaching aids, conflicts and terrorism, poor parental guidance, and misconduct of all sorts (Ogunode & Abubakar, 2020).

Furthermore, the directives by the Federal Ministry of Education (FME) on school closure unlike in some countries did not put in place policies on how to ease learning disruptions or challenges for students as well as making adequate provisions on how to address the online or technological means of learning which may be an alternative method to face to face teaching and learning process in the society.

Schools formally resumed on the 18th of January 2021 as announced by the Federal government (Adetayo, 2021) although University students had 10 months at home due to the pandemic lockdown and the Academic Staff Union of Universities (ASUU) strike (Salako, 2021). Nevertheless, students who are technological literates were willing to optimize e-learning opportunities. However, this desire remained unfulfilled for some due to some challenges such as lack of confidence in the effectiveness of the process as well as knowledge on how e-learning modes of learning and platforms are operated (Olatunde-Aiyedun, Eyiolorunse-Aiyedun & Ogunode, 2021; Olatunde-Aiyedun, Ogunode, & Eyiolorunse-Aiyedun, 2021). Also, the Coordinated Education response to the COVID-19 pandemic according to Hussain (2020) on the landing page of the Ministry website was ambiguous and does little to address the learning needs of the most vulnerable and disadvantaged.

Undoubtedly, Nigeria's higher education is the biggest in Sub-Saharan Africa and according to the World Education News Review (WENR) consists of universities, polytechnics, monotecnics, and colleges of education that offer admission opportunities to students for undergraduates, graduates, and vocational and technical education. Higher education in Nigeria is controlled by the federal government of Nigeria through the following established agencies

- a. National Universities Commission,
- b. National Board for Technical Education
- c. National Commission for Colleges of Education

Data retrieved on the 12th July 2020 from the National Universities Commission, (NUC), National Board for Technical Education (NBTE), and National Commission for Colleges of Education (NCCE) website reveals the total number of approved universities, polytechnics, Institutes, and Colleges of education in Nigeria as follows;

Table 1: Table showing approved higher institutions in Nigeria

s/n	Category	Total
NUC		
1	Approved Federal Universities	45
2	Approved State Universities	52
3	Approved Private Universities	99
4	Approved Distance Learning Centre	12
Total		208
NBTE		
5	Approved and accredited Vocational Enterprise Institutions (VEIs)	78
6	Approved and accredited Technical Colleges	123
7	Approved Innovation Enterprise Institutions as at November 2019	158
8	Approved private Colleges of Health Science and Technology as at April 2021	10
9	Approved public Colleges of Health Science and Technology	43
10	Approved and accredited Colleges of Agriculture	33
11	Approved and accredited Specialised Institutions as at April 2021	36
12	Approved and accredited private Polytechnics as at April 2021	64
13	Accredited State Polytechnics	48
14	Approved Federal Polytechnics	37
15		630
NCCE		
16	Approved Colleges of Education	160
Grand Total		998

Source: National Universities Commission: NUC, 2021; National Board for Technical Education: NBTE, 2021; and National Commission for Colleges of Education: NCCE, 2021.

Concept of Curriculum and Curriculum Delivery

Just like education, curriculum poses a big problem in terms of definition (Esu, Enufoha & Umoren, 2016). This is because of the distinction among scholars as to what curriculum means. According to Ombugus, Jatau, & Kuzhe (2009) some meanings are attached to the curriculum which has been considered to mean curriculum. Examples of items that are basic components of a curriculum but do not actually mean the same as a curriculum as posited by Bishop (1985) in Ombugus et al (2009) include course of study, syllabus, topics, lists of subjects, contents, organized school objectives, textbook, and time-table. However, there is no consensus agreement on a unified meaning of curriculum. Thus two school of thought – the traditionalist and the progressives emerged within which still have an existing disagreement.

The traditionalist school of thought comprises the perennialists, essentialists, and discipline doctrine advocates (Esu et al., 2016). It is the belief of the perennialist group that focuses on permanent studies such as grammar, logic, mathematics, reading, and rhetoric. They contend that these studies are relevant for the present and the time to come. For this group, the variation in the needs and interests of learners are of no importance thus, are not taken into consideration in the process of curriculum development. One of the significant differences between essentialist and perennialist school of thought is the recognition of the curriculum and its impact in bridging communication gaps among nations by the essentialists on the other hand are of the opinion that the work of the teacher and the curriculum must represent a storehouse of organized race experience stored against the time when ideas will be required in the constructive solution of new and unproven problems (Tanner and Tanner, 1975; Esu et al., 2016). For this group, there are basic subjects such as literature, use of mother tongue, writing, foreign language, sciences, mathematics, and history. Lastly, the discipline doctrine advocates that curriculum is the direct summary of the processes of investigating to led to the successful bodies of the organized knowledge comprising the established discipline

(Tanner and Tanner, 1975; Esu et al., 2016). Little or no attention is given to learner's interests and needs according to this group as they are considered to be non-significant. However, one of the underlying factors of this group is the advocacy for the inclusion of guidance as an essential element of the curriculum. Scholars have realized over the decades that what learners are taught in school is affected by their interests and needs as well as by the totality of the environment within which learning takes place. Therefore, according to (Esu et al., 2016), there was a change in the meaning of the concept of curriculum in a bid to broaden the narrow traditional view.

The progressives which is the second school of thought came with a shift in the procedures of instructions as well as delivery of materials to learners. Some of the advocates of the progressives school of thought such John Dewey, Doak Campbell, Hollis Caswell, Willians O. Stanley, Colin J. Marsh, Harlan Shores, and George Willis contend that a curriculum is the totality of organized, guided learning and individual experience with the approval of the school. Unlike the traditional school of thought, the progressives believe that the curriculum is based on the interest and needs of students. Thus, it is progress-oriented, child-centered, in-depth learning, and integrated curriculum. Unlike in the traditional school of thought where skills are learned through repetition and concepts presented as facts to memorize, the progressive school of thought emphasizes learning by various educational activities as concepts are considered as inquiries to be investigated. Thus, academic subjects are not just considered as an essential component of the curriculum but also other extra-curricular activities form part of the educational curriculum.

Based on the foregoing, the curriculum can be viewed as every planned or unplanned learning experience undergone by learners while in an educational environment.

According to UNESCO (2020), the curriculum defines what learners should be taught, what they should learn, for a given social project or citizen profile, hence explains the skills, knowledge, and values that must be taught by schools. The curriculum can be assessed in different instruments that guide the work of the diverse actors in the education system, whose, combined action should lead to the best possible learning conditions for students. Examples of some of these instruments include; the curriculum framework which condenses the mission, vision, goals and objectives, pedagogical models and approaches, principles, directivities on the operations of teachers; textbooks; disciplines; teaching aid; and teacher's manual.

Overview of the Impact of COVID-19 Pandemic on Education

Education is one of the best available tools for which helps in the acquisition and development of skill, potentials, and knowledge. Most learners participated actively in carrying out most of all the curriculum activities in the course of development as a relatively short time in school has a longer impact on the life of the learner. Conversely, withdrawal from school for a given period becomes an issue in the development and inculcation of the right and acceptable competencies in the learner; thus a short period of missed academic activity may have implications for the development and sustenance of knowledge and skill. As a result, both the negative and positive impact of the COVID-19 on learning cannot be effectively measured as only the visible effect can be measured unlike the inbuilt decay of abilities which are subtle and most times unnoticed (Adelakun, 2020). No doubt, things have changed intrinsically as schools were affected to make changes in their school schedules and timetables as well as some Nigerian schools reviewing some of the school activities in order to compete favorably internationally (Adelakun, 2020). According to UNESCO (2020) their article titled, Global Analysis: Covid 19: Impact on Education posited that there is no doubt that schooling has a positive impact on individuals and the economy, however, the benefits of education that were lost especially during the school closure are;

- a. Cuts to education by donors and government and aid funding may further limit recovery of the education sector;
- b. Many will be impoverished due to the economic shock of the pandemic, protection violations, increasing risks of malnutrition, stress, child labour as well as every other factor that further inhibit their future access to effective learning;
- c. The disruption of school feeding programmes implies that millions of learners no longer have access to a nutritious, regular meal;

- d. Various learners and families will miss out on critical information and health services that are common in schools and other learning avenues; and
- e. As one of the protective avenues of protecting children, lack of access to schools highly subjects children to abuse and trauma thereby putting both their mental and physical health at risk if their homes are unsafe.

Conversely, developed countries experienced some changes from the conventional curriculum delivery to modern methods due to the effects of the pandemic (Kacerauskas & Kusaityte, 2020). Thus, students were taught in these countries through the adoption and use of technologies. For example, to ensure uninterrupted flow of education in China, flexible online learning was introduced to enable students to learn from home (Huang, Liu, Tlili, Yang, & Wang, 2020) as well as the introduction of the ‘Suspending Classes Without Stopping Learning’ during the lockdown period by the Chinese Ministry of Education (Zhang, Wang, Yang, & Wang, 2020; Kacerauskas & Kusaityte, 2020).

According to UNESCO (2020) in Adalakun, (2020) an estimate of about 35.9 million primary and secondary school learners were out-of-school due to school closure this will lead to an increase in intergeneration inequality and poverty. Out of this 35.9 million, 25.6 million students are from Primary schools were 23.5 million (87%) represent students enrolled in public institutions. Out of the roughly 10.3 million secondary school students who are out-of-school as a result of the closures, approximately 8.4 million (81 percent) of them are public school students. Child marriages are estimated at 13 million by the end of 2030, children of about 370 million missed out on free school meals, due to disruption in school immunization estimated number of about 80 million children are to contract vaccine-preventable diseases (UNESCO, 2020). However, there is no guarantee that every student who left the school is back to school after the reopening of schools as some have joined bad groups shifting their attention away from school, some may have possibly changed their ideology, therefore, considering schooling as a waste of time and resources.

This is where the work of guidance and counselors, parents as well as other education stakeholders should collaborate towards ensuring that the welfare of learners is prioritized. Considering the variation in the literacy level of most parents, students who learnt within their homes are as well limited while some were handicapped because not every parent could manage effectively the pedagogy aspect of parenthood and besides the consideration of commitment level of parents. The rippling consequences of some of the changes posed by the COVID-19 pandemic may not be easily noticed now; the future of a child in this category is naturally exposed to a serious academic crash if there are no proper action taken to cushion the effect.

Table 2: Factors Affecting Nigerian Education During the Coronavirus Pandemic Lockdown

Variables	Communality	Percentage%
Lack of funding	0.5848	58
Poor digital skills	0.5067	51
Resistance to change	0.52	52
Lack of training	0.5206	52
School policies	0.5508	55
Poor electricity	0.6507	65
Inadequate facilities	0.6434	64
Network issues	0.612	61
Digital divide	0.5987	60
Unavailability and unaccessibility	0.6984	70

Source: Edeh et al. (2020).

The analysis of the table above shows some of the factors which affected negatively the free flow of education during the COVID-19 pandemic lockdown in Nigeria. The communality values of the findings

from the analysis of the ten variables show < 0.05 . This confirms and indicates that these factors contributed greatly to the challenges of the Nigerian education system during the COVID-19 lockdown. Although all these factors are significant, issues on unavailability and accessibility to education stood out as the most affected at about 70%, as 51% affirmed that engagement in educational activities during the COVID-19 pandemic lockdown was hindered due to poor digital skills hindered.

Concept of Higher Education

Having looked at the Nigerian education system, what is higher education? Higher education according to the National Policy on Education (2004) is

“the Post -Secondary Section of the National education system, which is given of Universities, Polytechnics and Colleges of Technology including courses as are given by the Colleges of Education, Advanced Teachers Training colleges, Correspondence Colleges, and such institutions as may be allied to them”.

For Obanya (1999), higher education consists of all coordinated learning and training activities at the tertiary level of education such as the traditional universities, those with the traditional arts and humanities, science faculties, specialized universities like institutions specializing in science and technology, transportation, engineering, and agriculture. Likewise, post-secondary institutions such as polytechnics and colleges of education are included. However, individuals enrolled for higher education are those who have completed secondary school education and have decided to become professionals in various professional fields. Higher education is also defined as a system that espouses a large part of the nation's research capacity towards ensuring that the majority of professionals needed by the labor market are reproduced (Adeyemi, 2001). Obanaya (1999) in Ogunode & Abubakar (2020) posited that any circumstance in which mature individuals are organized for developing their knowledge and skills, in a bid to apply acquired knowledge and skill to the analysis and search for solutions to the challenges of life is known as higher education.

According to the National Policy on Education, 2004, the following are the aims and objectives of higher education in Nigeria include;

- a. the development of the intellectual capacities of individuals to understand and appreciate the environment;
- b. the acquisition, development, and inculcation of the proper value orientation for the survival of the individual and societies;
- c. the acquisition of an overview of the local and external environments;
- d. the acquisition of both physical and intellectual skills which will enable individuals to develop into useful members of the community (NPE, 2004).

According to UNESCO (2020) when schools are temporarily closed, it has a high economic and social cost, with severe impact on students from a low background. However, the focus of this study is on how curriculum delivery was affected by the COVID-19 pandemic on higher education.

Evaluation of E-learning during Covid-19 Lockdown in Nigerian Public and Private Tertiary Institutions

According to Chioma, Ogbonna, & Nwosu (2021), when both developing and developed countries invest in education, they achieve an improved and lasting development as well as improved standard of living. Therefore, in order to guide against the total collapse of the Nigerian education system thereby avoiding brain drain, there was a need for Nigerian schools to join the leagues of developed countries and incorporate virtual learning in the education system. Despite the fact that Nigeria Open University adopts distance learning in its teaching methods, this opportunity is yet to be utilized by most tertiary institutions in Nigeria. It is either students are hindered due to unavailability or accessibility of e-learning opportunities or the teachers are not digitally inclined. For other institutions where ICT is used, they are mostly used for students examination especially General Education Studies (GEDS), or for student enrollment/registration. Attempts have been made towards incorporating ICT in learning in order to ensure quality teaching and learning process as well as effective student academic performance (Oyediran et al., 2020).

According to Babine (2020) some of the institutions in Nigeria which adopted the E-Learning method for lectures, tests and examinations are Babcock University, Ilishan Remo, Ogun State; Afe Babalola University, Ado-Ekiti, Ekiti State; Bowen University, Iwo, Osun State; and Baze University, Abuja. In the views of Lawal, Njoku, Agboluaje, Akingboye, & Osayande (2021), there was a high level of success in the adoption and implementation of e-learning by private institutions. They further noted that e-learning was adopted by some public institutions such as Obafemi Awolowo University (OAU), University of Lagos (UNILAG), University of Ilorin (UNILORIN), Ile-Ife, Akure (FUTA), University of Abuja and Federal University of Technology. Unlike the success rate recorded among private institutions, findings revealed that public institutions struggled with the transition to e-learning due to lukewarm attitude by students and lecturers, lack of basic facilities, network/internet-related issues, electricity and funding (Lawal et al., 2021). Nevertheless, e-learning has come to stay as it has been adopted by various tertiary institutions in meeting their academic calendar after the global covid19 pandemic lockdown. According to Olabisi (2020) and Olatunde, Ogunode & Eyiolorunse (2021), many tertiary institutions have switched to e-learning in order to cushion the impact of covid-19 on their academic calendar. In the views of Schleicher and Reimers, (2020) in Oyediran, Omoare, Owoyemi, Adejobi, Fasasi (2020), the use of e-learning was common in OECD countries during and after the COVID-19 pandemic lockdown. The blended method of curriculum delivery was adopted as instructional materials were designed in that contents could easily be accessed by learners while virtual learning is utilized by the teacher (Andreas, 2020; Oyediran et al., 2020). Findings from the study of Oyediran et al., (2020) on some public and private Universities, Polytechnic and Colleges of education in Lagos, Oyo, and Ogun State reveals 67.3% compliance with e-learning took place in the Universities compared to 59.1% in Polytechnics and 52.8% in the Colleges of Education that was studied.

Also, countries such as Sweden changed mainly to distant learning in all tertiary institutions from the beginning of the pandemic (UNESCO, 2020; Oyediran, 2020). Other countries such as the United State of America, South Africa, Pakistan, Australia, and Italy switched to e-learning through the use of Blackboard, Canvas, and zoom (The Republic of Italy, 2020; Chaka, 2020; Ali, 2020). In a bid to cushion the effect of the COVID-19 pandemic and ensure a successful switch to e-learning, fewer privileged students were given digital devices, digital platforms were made available for schools, school teachers were trained on the use of digital platforms by the Italian government (The Republic of Italy, 2020). While there was also a switch to web-based learning in Australia (Ali, 2020), the higher institutions in Pakistan were compelled by Pakistan's Higher Education Commission (HEC) to adopt online learning (Oyediran, 2020).

Undoubtedly, the Nigerian education system is underfunded due to poor budgetary allocation at both the state and federal levels. This was one of the major factors that led to the 9 months ASUU strike by lecturers. As a result, the number of school facilities and infrastructure is not sufficient for students. Furthermore, findings from the study of Oyewole (2006) and Roseline (2012) in Ogunode (2020) affirms that government makes little investment in higher education, especially towards academic research and development. In the views of Adeoye, Adanikin, Adanikin (2020), inadequate resource persons and high cost of technological accessories among other issues restricts e-learning in Nigeria thus according to Oyediran, (2020) has made numerous educational institutions consider it difficult to locally conceptualize and carry out e-learning ideas.

Impact of E-learning on Tertiary Academic Program

Before the COVID-19 pandemic lockdown, most tertiary institutions had almost completed their academic syllabus and about preparing for their final examinations before the directives of the government on shutting down the educational institutions started. This directive affected schools as they had to announce either rescheduling or canceling their examination date in a bid to reduce the spread of the virus.

The study of Aiyedun and Ogunode (2020) on the impact of the COVID-19 pandemic on academic programs in Nigerian Universities was carried out on 3 Nigerian Universities - Lagos, Abuja, and Kano reveal that academic programs were affected by the COVID-19 pandemic. The study further revealed that the directives of the Government for schools to switch to e-learning were not carried out by public universities. This was

as a result of the high cost of internet data and the lack of technological knowledge on the use of digital learning platforms.

According to Ogunode (2020) whose study investigated the impact of the COVID-19 pandemic on tertiary institutions in Abuja. Findings revealed that 100% of the respondents agreed that the COVID-19 pandemic had led to the suspension of the academic calendar, community service, and research programs of higher institutions in Abuja.

Some Opportunities Presented by the COVID-19 Pandemic towards Curriculum Delivery

No doubt, various educational opportunities have been presented to educational stakeholders due to the closure of schools as a result of the COVID-19 pandemic. Some of these opportunities include;

Blended/Mixed learning: educational institutions can foster a framework that permits them to give a blended/mixed learning of conventional classroom and opportunities for learners even after the pandemic. Findings from the study carried out by The Education Partnership Centre (TEP Centre) showed that most instructors presently favor the blended/mixed teaching method where they can have both online and physical interaction with learners. This presents an opportunity for education stakeholders to reduce operating costs of running the conventional method of curriculum delivery.

No doubt, the emergence of the coronavirus pandemic in the country has affected both the Federal and State government on issues regarding political and socio-economic development. It has also posed some educational challenges especially in the provision of alternative means on curriculum delivery. Also, for developing countries to meet the UNESCO 2030 education declaration and framework for action requires the provision of alternative teaching and learning methods by establishing equality through assisted programmes and methods, approved and accredited by the ministry of education, which will aid flexibility in the teaching and learning in both formal and non-formal settings, as well as in occasions of unplanned school closure like the Covid-19 lockdown (UNESCO, 2020). In response to some of the challenges associated with curriculum delivery in Nigeria occasioned by the COVID-19 pandemic, some of the alternative learning and education modes that can contribute greatly to blended/mixed learning capable of facilitating continuous curriculum delivery are recommended by Chukwuemeka, Samaila, Kareem, Mailafia (2020) include the following:

a. Distance Learning (DL)

The mandatory restrictions on mass gathering and social distancing measure enforced by the government during the COVID-19 pandemic led to the Nigerian education system being temporarily closed. This created the urgent need to fill the gap towards meeting the educational goals. Various countries, bodies and institutions worked hard in bridging the gap which was created by the COVID-19 pandemic. Distance learning was made possible in ensuring that there was little or no alteration in the school curriculum delivery as there were uncertainties in the duration of school closure.

The school closure also led underdeveloped nations such as Nigeria to sort for flexible curriculum delivery methods that are available and affordable as some adopted the distant learning method. Basically, one of the online learning methods which mostly need less face-to-face meeting is distance learning. According to (Jegade, 2016), it is mostly a teaching and learning alternative delivered through a method in which teachers and learners are physically separated. In the views of Demuyakor, (2020); and Toquero, (2020) this method of online learning offers control and to a greater extent limits the spread of the Corona Virus.

The execution of distance learning (DL) through Television programs in Nigeria according to Chukwuemeka (2020) was a swift response to the interruption to educational activities due to coronavirus pandemic. Most of the Television stations according to Olapegba et al., (2020) commenced the immediate broadcasting lessons in various subject areas especially for basic education with the aim of delivering part of their curriculum.

However, this innovation is considered as a well-timed solution for the educational difficulties emerging from the unplanned school closure, although the quantity of Television assessed by families mainly those in

distant spaces of the nation could be poor as a result of limited coverage of TV. organizations (Olapegba et al., 2020, Chukwuemeka et al, 2020). There is a need for educational institutions in Nigeria to think about running tele-courses to give equal opportunities to students in remote areas who are faced with difficulties accessing the internet or TV channels.

When it comes to the utilization of internet and computer services in Nigeria education, basic education suffers great setbacks. This according to Sintema, (2020) is on the grounds that online distance learning is normally centered on learners in tertiary institutions of learning, hence depriving students in the primary and secondary schools of equal educational opportunities. Thus, there is a need for the development of more moderate and accessible learning experiences in order to give equal opportunities to learners at all levels and locations through distant learning. Also, there is a need for government to make provision for successful implementation plans on distance learning methods across the various levels of education in Nigeria through the provision of moderate technologies and skills to students, institutions, and teachers. According to Oyeniran et al., (2020), this will help schools with increasing for the lost in-class learning exercises. It will also assist in addressing most of the immediate and future emergencies when learning activities are disrupted.

b. Social Media

The use of social media in curriculum delivery has gained much attention as a result of the COVID-19 pandemic. This was affirmed by Mulenga & Marban, (2020) who noted that "social media has become the dynamic gateway for delivering educational information across the globe since the detection of COVID-19 pandemic in December 2019." Social media platforms such as Twitter, Facebook, and WhatsApp make available to educators a wider range of new and interesting learning experiences and teaching environments, which are not possibly obtainable in the conventional classroom (Sam, 2016). However, it is essential that educational institutions utilize innovative teaching methods and approaches like social media during this Covid-19 era and beyond (Toquero, 2020).

A report released by the Nigerian Communication Commission (NCC, 2019) indicated that over 24 million individuals were active on social media in Nigeria and more than 75% of these users are connected to either Facebook, Twitter, Telegram, or Whatsapp, and a majority of them are youths within the school-going age. Consequently, the Nigerian Communication Commission (NCC) rated them as the most downloaded applications. This could be as a result of its user-friendliness, quoting Chukwuemeka et al., (2019); and Romualdo & Gregorio, (2017) despite the differences in ages, location, and backgrounds the user-friendliness of most social media sites makes them attractive to people.

Others include mobile learning, virtual classroom, and flipped classroom.

Innovative partnerships: the pandemic has presented various avenues for the stakeholders in the education sector to partner with internet service providers and information communication technology (ICT) companies to make online study platforms and offer related services specially designed for education that would serve the academic needs of learners.

Rapid acquisition of digital skills: There has been a great adoption of digital teaching-learning and innovation amongst parents, teachers, learners, and public and private organizations which was prompted by the COVID-19 pandemic. Substantially, more than was previously experienced, education stakeholders have been exposed to digital skills as a result of the pandemic. Learners as well have adjusted positively to learning via the internet and this has advanced their digital skills. These abilities and skills are probably going to turn out to be much more relevant for the future of work and the productivity of individuals.

Entrepreneurial opportunities: business opportunities have been made available due to the emergence of the pandemic. Thus, individuals interested in education franchising, private investors, and entrepreneurs can amplify this opportunity to make outstanding benefits while additionally making a social impact in their environment. (Ikoku, 2020). Also, it would likewise permit network service providers to take part in more productive corporate social responsibilities projects. Although there has been enormous development towards online learning in the course of the last decade and the COVID-19 pandemic has seen significantly more individuals having access to online education. Most academic institutions have also been able to explore the internet in connecting to their students in every nook and cranny.

Difficulties of Learning from Home

Due to the outbreak of the Coronavirus pandemic, some institutions especially private schools in meeting the directives of government are still engaging in distant learning. This is certifiably not new in light of the fact that the home has for quite some time been the heart of learning activities, particularly for informal education. However, one of the "new normal" is learning from home. As indicated by Education Task (2020), most learners in higher institutions actually like to study in their various homes in light of the fact that the students will in general have everything available to them without leaving their comfort. Consequently, in a real sense, studying at home could be challenging to parents, students, and teachers towards receiving formal education particularly in developing countries such as Nigeria which is characterized by lack of basic amenities to citizens.

Some of the challenges affecting curriculum delivery include but are not limited to inaccessibility and availability issues, poor digital skills, internet issues, increasing cost of education, etc also affects studying from home. Also, unfamiliarity with new technologies and noise from the environment also contribute to the challenges associated with learning from home. Interestingly, efforts are being made by UNESCO, having understood the problems faced by developing countries to help both teachers and learners in educating them on how to engage in online classes from their homes through the provision of free software that works with remote education (Edeh et al, 2020). According to Catherine (2020) in Edeh et al, (2020) the UNESCO has created an online guide with connections to distance learning (DL) apps and different resources to cushion the effects of Coronavirus in the implementation of the curriculum. These opportunities are to be optimized by learners, parents, and teachers for improving their digital learning skills and study habits. The education sector could be transformed through the challenges imposed by Coronavirus.

Conclusion

Regrettably, the outbreak of COVID-19 pandemic which has rocked every sector of the Nigerian economy is making the educational sector look inward on the best method of curriculum delivery as well as meeting the goals of education. An overview of the recent trends in Nigeria and beyond concerning the COVID-19 pandemic, there is the possibility of living with the virus for a longer period. No doubt this may present some level of setback in the development of Nigeria's education system as some schools have limited infrastructural facilities which have affected curriculum delivery. Also, the academic calendar has been disrupted as some schools are still struggling to meet up with their normal school calendar. Some educational institutions are now engaging in online learning mode which serves as an alternative to the usual face-to-face contact learning thus, helping the institutions in bridging the gaps presented by the COVID-19 pandemic that might have great implications on the institution's academic calendar.

The effectiveness of education technology interventions for teaching-learning activities in the education system has been accessed in this trying period. This was affirmed by Onyema (2019) in Edeh (2020) who posited that the integration of the latest technologies in education has become a need and no longer a choice for all educators due to the growing need to improve creativity and innovations in learning, changes in an academic environment, and demands for flexibility in teaching methodology. Sadly, it appears that the Nigeria education system as at this point is not fully prepared to meet the requirement needed for curriculum delivery as observation reveals that chosen alternatives for curriculum delivery during the lockdown period were unsuccessful due to lack of technical know-how on the parts of students and learners, high tariff charges and unstable network from various network providers, lack of constant power supply among many others. Findings from the study conducted by Edeh et al., (2020) indicate that the COVID-19 pandemic affected curriculum delivery possibly contributes to the decrease for disadvantaged individuals to access educational opportunities. Teachers and learners are unsettled thereby creating multiple challenges in teaching and learning. Ben, Mathew, & Kristen (2020) contended that there is an indication that the pandemic has the tendency of leading to a rise in school debts and pressure on schools as well as parents.

Recommendations

Having examined the various impact of the COVID-19 pandemic on curriculum delivery in the educational system, this study recommends the following:

- a. Due to the lack of adequate infrastructure in Nigeria, there is a limitation to the utilization of remote learning. There is a need for a concrete effort by government and other relevant education stakeholders to intensify investment in remote learning tools such as mobile phones, radios, laptops; stable electricity; accessible and quality internet connections, etc. Students in local areas and low-income households are constantly excluded from educational programs and poor curriculum delivery due to inadequate infrastructure.
- b. Due to the rise in the demands for active involvement of parents towards their wards academic pursuit, there is a need for the training of parents in order to ensure active involvement. Also, it is essential that they are equipped with basic resources to effectively navigate this "new normal" through proper understanding and identification of their children's learning needs and the best method of meeting them. Examples of some of the support that needs to be given to parents include tutorials on how to use and manage the internet, educational platforms screen time, etc.
- c. Parents can be taught by instructors on how to engage learners at home that is, who desire to engage in play-based learning and homeschooling methodologies. Unfortunately, some of the instructional materials needed cannot be afforded by some of these parents hence, the need for government intervention in the provision of some learning materials for parents or provide them at a subsidies rate.
- d. It is no doubt that some non-governmental actors contribute greatly to the provision of learning needs in the education system despite the ravaging effect of the COVID-19 pandemic. However, there is a rising demand for locally developed instruments and applications that are user-friendly and sensitive to the socio-economic realities of Nigeria. Government can assist in the training and support of members of non-governmental actors towards enhancing already existing strategies.
- e. Education stakeholders need to utilize effectively the opportunities presented by remote/online learning options in meeting the desired goals of education.
- f. In meeting social and economic demands, the coronavirus has created opportunities for proper assessment of the Nigerian education system as most of the doctors and supplies were foreign-based. There is a need for schools to emphasize more on practical especially those in the science field and less emphasis on theories.

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