

COVID-19 PANDEMIC AND E-LEARNING AS INNOVATION TO SUSTAIN PUBLIC
UNIVERSITY EDUCATION IN RIVERS STATE

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Abstract

With the plethora of challenges presented by covid-19 pandemic brought about approaches to contend the menace. It was due to this the paper examined covid-19 pandemic and e-learning as innovation to sustain public university education in Rivers State. The paper was anchored to achieve two objectives such as: to find out the imperative for the use of E-learning among universities in the Era of Covid-19 Pandemic in Rivers State; to identify the challenges of E-learning among universities in the Era of Covid-19 Pandemic in Rivers State. The theory of Anthony Giddens on Time-space distancing was used to link Covid-19 and E-learning. Two universities in Rivers State were selected for the study using qualitative approach. The findings showed that there was progress in the use of e-learning technology and that it led to advancement of teaching and learning systems in the educational system among public universities in Rivers State. Also, it showed some challenges that affected e-learning such as network problem, epileptic power supply and ICT gadgets among others. There is need for universities to ensure the adoption of E-learning to assist and serve as an alternative to the unconventional classroom teaching and learning in case of an emergency period such as COVID-19 pandemic.

Keywords: Coid-19 Pandemic, E-learning, Education, Innovation.

Introduction

Generally, the existences of various pandemic has in one way or the other brought lots of challenges to universities as well as disruption of academic calendar. This assertion implies that earlier, higher education has suffered tremendously from

the outbreak of some viral diseases. Prevalent among these viral diseases are measles, influenza, cholera, smallpox, falciparum, malaria, dengue, and HIV. In recent times another viral disease called (COVID-19) has invaded the world with its impact felt by all facets of the

economy, especially, the educational sector. This pandemic has not only altered universities academic calendar but has imposed serious health threat to the entire human race.

In the view of United Nations International Children's Emergency Fund (UNICEF) (2020), conceptualized COVID-19 as a disease caused by a new strain of coronavirus. 'CO' stands for Corona, 'VI' stands for Virus, and 'D' stands for Disease. Formally, this disease was referred to as '2019 novel coronavirus' or '2019 nCoV'. The covid-19 virus is a new virus linked to the same family of viruses as Severe Acute Respiratory Syndrome (SARS) and some type of common cold. Viruses are therefore non-living self-contained generic programs capable of redirecting a cell's machinery to reproduce more of them. Cases of COVID-19 have occurred over the years in other countries and particularly China (David, Daszako, Markel & Taubenberger, 2020). This viral disease infects human respiratory epithelial cells in vitro, suggesting their pandemic potentials. COVID-19 is a global disease and spreads easily where there is much crowd of people. Due to its hit to various sectors, it was found that they had some challenges because it emerges suddenly without adequate preparations (Elem, 2021, Emeodu & Obuzor, 2021).

Universities are places where higher and advanced knowledge is derived. In Rivers State, there existed three public Universities such as the University of Port Harcourt, Rivers State University and Ignatius Ajuru University of Education. In this study only RSU and IAUE were used this is due to the

fact the University of Port Harcourt was on strike during the outbreak of Covid-19. The emergence of this virus affected all economic sectors, this was confirmed by the Studies of Elem (2021), Emeodu and Obuzor (2021) & Wilfred, et al., (2021) which showed that almost all sectors were affected, and as such leading to the establishment of various measures by the government. These measures later affected the functionality of the numerous sectors. With the outbreak of the pandemic, more than 1 billion and 575 million students in approximately 188 countries around the world are reported to have been affected by the closure of schools and universities due to preventive measures taken by countries against the spread of COVID-19 United Nations Educational, Scientific and Cultural Organization (UNESCO) (2020). Given the policy on isolation, the use of technology has been considered the most appropriate (if not the only) alternative to keep educational systems functional in many parts of the world during this period. Despite the challenges in implementation, several advantages have been acknowledged in the need to shift to remote or online learning, among which stands out the opportunity for rapid progress in the field of digital education, which, in other circumstances, would take years (UNESCO, 2020). Hence, given the imperative for the use of the technology led UNESCO (2020) to posit that the shift to the remote learning format presents itself as a good opportunity for teachers and students to become more creative in pedagogical interaction.

Statement of the Problem

The spread of COVID-19 was characterized by fear, anxiety and other concerns to citizens in different parts of the world. These also involved groups engaged in the educational process, such as children, teachers and parents (NCIRD, 2020). There was great concern on parents about the education of their children. The concern of some parents' apart from circumstances created due to physical distancing and other personal factors, were view to have been influenced by various factors as identified by UNESCO (2020): an unwillingness to support their children in distance/online learning or home learning; the lack of access to technology and the Internet or the inadequacy of the technological formats used for children with special educational needs; economic hardship.

Again, it was noted that the concerns of teachers engaged in the learning process were related to opportunities to conduct remote/online learning due to their level of knowledge and skills in the use of technology, access to technology and isolation at home (UNESCO, 2020). Such concerns have been reported in particular by countries in which, prior to the circumstances created by the preventive measures against the spread of COVID-19, the level of use of technology by teachers in the classroom has been declared extremely low (UNESCO, 2020). In addition, the demands to shift teaching to the online format have also been reported to have increased the level of stress and anxiety of teachers in different parts of the world (UNESCO, 2020). Accordingly, with the era of COVID-19 and in the midst of the

lockdown, three challenges were noticed such as: a lack of access to technology, an unsuitable home learning environment and a lack of access to learning material. On the part of the teachers, their main challenge was the of lack appropriate training to design and manage distance learning programs or poor professional development that would have made them utilize some ICT skills. This as well was given more validity by some scholarly studies that suggested improved professional development of academic staff (Adiele, 2022, Emeodu & Obuzor, 2021). Another challenge was compounded by lack of infrastructural facilities like computer, electricity, connectivity, devices, and lack of appropriate learning materials: books, television and internet-enabled devices. To this end, Atayero (2020) suggested that, n Universities in Nigeria should utilize the combination of traditional and online teaching methodologies like their counterparts indeveloped countries post COVID-19. This implies that alternative techniques should be applied to sustain higher education activities and programs even if or not pandemic exists. To achieve this, it will include organizing online classes or distant learning.

The aforementioned factors coupled with the universities union incessant strikes play a key role for the setback of public universities academic activities during the COVID-19 pandemic in Nigeria (Lei, 2020). In spite of the challenges posed by this Covid-19 pandemic in various universities environment in Rivers State, it becomes imperative to sustain higher educational activities through the online teaching by the

teachers to contend the challenges that may erupt now or later pandemic. However, the researchers realized that of all the studies carried so far, none addressed covid-19 pandemic and e-learning as innovative approach to contend this menace among universities in Rivers State. This becomes the gap to fill in this study. The paper aimed at the following:

- i. To find out the imperative for the use of E-learning among universities in the Era of Covid-19 Pandemic in Rivers State.
- ii. To identify the challenges of E-learning among universities in the Era of Covid-19 Pandemic in Rivers State

Theoretical Framework

The theory adopted in this paper is Anthony Giddens framework titled **Time-space distancing theory** in 2009. In given some assumptions of the theory, Giddens showed how social life consists of interactions that are face-to-face or distant. Time-space distancing describes the process whereby distant interaction has become an increasingly significant feature of human life, and through which social systems that were previously distinctive have become connected and interdependent. Giddens was making reference to globalization which in 2009 defined globalization as the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa. Because society has become, what affect one nation affect the others. Justifying the use of this

theory to the work, it explains why all countries around the world were affected with the plague of covid-19 despite the distance from it source, which emanated from China. Given that globalization comes with modernization which brought about innovations have led people interact easily despite the distance. Distance is no longer a barrier to communication and teaching, *as covid-19 also spread without barrier*. Schools through e-learning advanced their teachings and ensure that their academic calendar were in tandem.

Literature Review/Empirical Review on Covid-19

Studies on covid-19 exist, and most have linked covid-19 pandemic and educational sectors innovative approaches or measures to improve the educational system. It goes without saying that on January 30, 2020, the World Health Organization (WHO) announced that this outbreak had constituted a public health emergency of international concern (Mahase 2020). Therefore, the new corona virus was initially named 2019-nCoV and officially as severe acute respiratory syndrome corona virus 2 (SARSCoV-2). As of February 26, COVID19 has been recognized in 34 countries, with a total of 80,239 laboratory-confirmed cases and 2,700 deaths (World Health Organization, 2020). The materialization of COVID-19 Symptoms slot in fever, hack and brevity of breath. In increasingly serious cases, contamination can cause breathing challenges. As per the World Health Organization, 167,515 worldwide cases were accounted for, including 6,606

passing's, as of March 16, 2020. All the more once in a while, the virus can be lethal. These signs are like this season's cold virus or the regular cold, which are significantly more typical than COVID-19. This is the reason testing is required to affirm in the vent that somebody has COVID-19,

Children and those with ceaseless clinical conditions, such as diabetes and heart disease, are more vulnerable to danger of creating serious signs. The Corona virus is clearing its way around the globe and its effect is just starting to be observable (Nwuke & Ebenezer 2020). The spread of Covid-19 brought series of challenges, although not to the educational sectors only, but other economic systems. It led to series of measures to ensure its containment, and as this manifest, it had a negative implications on Nigeria Education. In a report of the African Union (2020) which declared a pandemic by the World Health Organization (WHO) on 11th March 2020, the new deadly disease; given its influence on the entire world population and economy, corona virus (COVID-19) became a worldwide emergency. Also, the International Monetary Fund (IMF) used a scenario simulation to show that global growth could decline by 0.5 percent by 2020. The report also highlighted that various additional sources predicting a drop in global growth as a result of the COVID-19 outbreak's direct effects.

According to Onyekwena and Amara (2020), in late February 2020, Nigeria recorded the subcontinent's first confirmed case, after which it began to spread

throughout Lagos, Ogun State, and the Federal Capital Authority (FCT) area of Abuja. The pandemic's arrival triggered a series of policy responses, including public health and education campaigns, fiscal and monetary measures, restrictions on significant segments of the economy, and compensatory measures in the form of social support for the poor and vulnerable people in the society. The sudden onset of the pandemic and the scale of policy responses imposed significant educational costs on Nigeria's population, but the nature of the impacts on productivity and engagement of teachers and other employees remains unclear.

Studies exists on Covid-19 pandemic and its impact generally but the study specifically directs attention to education. For instance, Wilfred, Adiele, Odubo and Frank (2021) investigated on Covid-19 pandemic and tertiary educational development in Rivers State. It established that before the covid-19 plague, the Nigerian education structure has approved just physical contact to teaching tertiary students and interaction or teaching methods is always through face-to-face. With the issue of the lockdown situation and shutting down of schools, following the COVID-19 plague, both lecturers and students were helpless about how to carry on learning process in the face of the pandemic. It found that; covid-19 pandemic delayed students' graduation, it affected the various universities budget plan, academic calendar, poor school enrolments, poor school health and declined of universities revenue drive etc. Therefore, suggested that Government should make adequate provision for online learning

platform in schools even after covid-19 pandemic. In this study it did not establish effective innovative approach to curtail the menace of Covid-19 by the universities.

Duraku (2020) in a study that investigated the impact of COVID-19 on education and the well-being of teachers, parents, and students: Challenges related to remote (online) learning and opportunities for advancing the quality of Education, cited in Emeodu and Obuzor (2021), revealed that the closure of educational institutions due to preventive measures against the spread of COVID-19 has affected the education, well-being and functioning of all parties involves and benefiting from educational systems in the world. While the process of shifting learning to a remote or online format has already become part of many educational institutions in different parts of the world, several factors related to the quality of educational institutions, teachers, parents and students, in conjunctions which changes to their emotional states are assumed to be contributing factors that may affect the quality of remote or online learning, teacher performance, student knowledge and skills. The findings of this confirm the readiness and motivation of teachers to advance their knowledge and skills, as well as to contribute with the aim of advancing the quality of education. Opportunities to advance the quality of online learning, the support of teachers, parents and families, coupled with practical suggestions for parties involved in the field of education, are also included. Therefore, the paper eventually considered innovation as a way of improving education.

Again, Survey of the Experience and Opinion of Educators and Technology Specialists in September 2020, highlighted the effect of Covid-19 on Education and its implications for the use of Technology in Africa. This report and the survey findings behind it provide a unique insight into the perspectives of EdTech experts regarding the impact of the Covid-19 pandemic on education in Africa. It was based on the findings of a survey of the e-Learning Africa network, which attracted. Approximately 1650 responses from respondents in 52 countries in Africa. 15 countries (29%) provide 1217 (73%) of the 52% of the respondents are directly involved in the education sectors and 9% are in the ICT sector. 71% work for the government or not-for-profit organizations, and 21% for for-profit businesses. 40% are teachers/lecturers/professors, and 13% are ICT/Ed Tech specialists or entrepreneurs.

Also, Emmanuel and Bebaa (2021) studied COVID -19 pandemic on productivity and how it affects the engagement of civil servants in Rivers State. Although, there study was not specified on educational impact, but emphasized on impact of covid-19 pandemic on productivity. They found that covid-19 has affected both the productivity and engagement of civil servants in Rivers State. Based on these, the study recommends that government should improve their knowledge of understanding, predicting and quickly switching to change when needs arises in order to enhance their survival during pandemic. Therefore, the universities affected as given by these scholars as teaching and learning process was not an easy one.

Emeodu and Obuzor (2021) also investigated on Covid-19 pandemic and educational development of tertiary institutions in the 21st century in Nigeria. It found that apart from the negative outcome, the outbreak of covid-19 in Rivers State brought about positive outcome in the tertiary institutions, as there were perceived improvement, innovations and development in the system, through the use of online or e-learning medium. They recommended that teachers who are the pioneer of teaching or education, should even at this period of time when there is ease of the pandemic, utilize or subject the students with e-learning so as to avoid shock in case of future occurrence, and also to achieve this the teachers and students should do the needful to ensure they improve on ICT skills in preparation for further pandemic.

Methodology

The paper adopted a qualitative approach. Given this, the descriptive research design was used. The data collection method is only secondary sources, which includes both published and unpublished materials.

Discussion of Major Findings

The Imperative on the use of E-learning Among Universities in the Era of Covid-19 Pandemic in Rivers State

The imperative for the use of E-learning among RSU and IAUE in the Era of Covid-19 Pandemic in Rivers State cannot be overstated. This in simple terms can be attributed to the outbreak of covid-19 that attempted to disrupt their academic activities. To ensure clarity, it is ideal for one to ask what is e-learning? The term e-

Learning has different connotation to different scholars. Almost all agree that e-learning is of strategic importance and should be highly adopted for current learning style. Parks (2013) posits that the word "e" should refer to everything, everyone, engaging and easy" in addition to electronic". E-Learning refers to the use of internet/ICTs i.e. Information and Communication Technology to enhance and support teaching and learning process, According to Eze, Chinedu-Eze and Bello (2018), e-learning is concerned with the holistic incorporation of modern telecommunication equipment and ICT resources into/ the education system.

As used in this paper, E-learning as a concept means an electronic technique of learning which is linked to computerized learning in an interactive interface at the a stipulated time, utilized by the learners and lecturers for pedagogical purposes. In a nutshell, the term e-learning is synonymous to educational technology that is ideal in teaching and learning purposes. In identifying the types of e-learning used in learning, Tamm (2019) listed different types of e-learning as follows: Computer Managed Learning (CML), Computer Assisted Instruction (CAI), Synchronous Online Learning, Asynchronous Online Learning and Fixed E-learning.

The imperative for the e-learning gadgets ensures better content delivery, interactivity, quality content delivery and confidence of both learners and lecturers in the RSU and IAUE. It is a substitute when the lecturers cannot interface with the learners face-to-face. Despite the advantages of the e-

learning, it is still at its infancy and early adoption stage in universities in Rivers State due to its dynamic structure. Reacting on its usefulness, Anaekwe & Anaekwe (2020) pointed that e-learning was seen as the better and available option to keep the educational system running in the event of the covid-19 pandemic outbreak. This may be due to poor utilization of staffs and other quagmires. It was as a result of this that some studies suggested for the professional development of teachers to ensure more improvement that can enable them to improvise or acclimatize to any foreign situations (Emeodu & Obuzor, 2021, Adiele, 2021, Ajoku, 2013, Alete, 2021). E-learning is a great enabler, Vice Chancellors and her Senate members in the two universities in Rivers State recommended for their staffs to utilize its potentials in keeping the university system functional during the COVID-19 pandemic, and for any future unforeseen pandemic, security threat, natural disaster that may lead to close down of educational institutions in Rivers State and a Nigeria at large.

However, record of progress in the use of e-learning technology has led to advancement in teaching and learning systems in the educational system among universities in Rivers State. The introduction of computers was the basis of this revolution and, with the passage of time, as lecturers and students get hooked to android phones, iphones, Macbook, Apple phones and other electronic gadgets. These devices now have an important place in the classrooms for learning. In fact, with this effort, books were

gradually getting replaced by electronic educational materials like optima discs or pen drives. This implies that knowledge can also be shared via the internet, which is accessible, anywhere, anytime, except in remote areas where network poise as challenge.

In the utilization of e-learning, there are usually scheduled test due dates and assignments that must be submitted on time. E-learning courses offer the flexibility to fit into a student's available time schedule that is working at your own pace. E-learning resources are related to online, delivery and interaction over the internet using Classroom Management System (CMS) such as Blackboard, Moodle, Vista of Angle. Using a CMS (and a web browser), students to access their class materials and interact with one another (www.e-learning.ng.gov). The imperative/benefits of e-learning are countless; during this pandemic period, some universities lecturers used it to cover their course outline, go over it as often as they needed, all without attending physical classes. Another benefit was that, there are no securities and parking problems for car owners, no transportation fees, hostel and housing accommodation fees, plus you can take the class from any location with internet access. There have been many studies showing that e-learning students retain the material to a significantly greater degree than face-to-face instructor led classes (www.elearnirng.gov).

It was found that universities in Rivers State that used this method of e-learning technologies were a step ahead of those which still only have the traditional

approach (classroom face-to-face teaching) towards learning, during the COVID-19 pandemic. Adoption of e-learning in addition to face-to-face classroom lecturer led class, has one major advantage such as completing semester or sectional programmes on schedule, emergency period such as COVID-19, where movement is restricted and institutions of learning are on lockdown. The adoption of e-learning system for universities will enhance the efficiency of knowledge as both students and lecturers will have easy access to a large amount of information within the global village. This platform equally solve the problem of space unavailability as seen in most universities in Rivers State and Nigeria, class space for lectures is usually a problem as sometimes there is clash in overpopulated students. The e-learning system completely eliminated the issues of insufficient classrooms for lectures as student easily took the lectures online without any disruption at their convenience and to avoid other preventive measures like wearing of nose-masks, not shaking of hands and other covid-19 preventive measures. Also, e-learning afford students and lecturers the opportunity to participate in class in their comfort zone with basic amenities they need when compared to he traditional teaching method where sometimes these basic amenities are unavailable for conducive learning. These findings corroborated with Tingle (2011) which claimed that students had a higher acceptance level of comfort working with computers and other e-learning packages than the traditional face-to-face classroom.

Therefore, e-learning during the era of covid-19 pandemic provides a platform for students to interact among themselves through the discussion forum which eliminates the barrier of participation. It also allows for effective communication and fosters relationship between students and lecturers. It also allows students to study at their open pace and convenience as the lecture material is readily available and the content delivery of the lecturer is quite accessible to them. Hence, it increases satisfaction and decreases stress. The knowledge of e-learning will exposed both lecturers and students to the reality of the world outside the classroom since the world is a global web, the e-learning exposure will ease the student's integration into organizations where such platforms are operational and ideal. Hence, the imperative on the use of this tool as innovation cannot be overstated.

Challenges of E-learning during the Covid19 Era among Universities in Rivers State

During this pandemic, the use of e-learning was confronted with lot of challenges in the universities, as that was the only available medium for learning in most Nigeria Universities like Rivers State University and Ignatius Ajuru University that was not on strike during this period. These challenges include:

Poor Commitment of the Students: It was found among students the existences of low level of contribution of students; the student-teacher interaction through eLearning medium during covid-19 pandemic, seem not to be very effective due

to student loss of interest in learning having been exposed to various alternatives to school activities which were said to be more beneficial than passing through the four walls of the classroom. In fact lately, a common saying arose among the school community or student going age in pigeon English (School na Scam) meaning that going to school is a scam, and that education is no longer the key to success in life. This claim was further established by Adetakun (2020) where he said education is no more influencing the national development, many nations are moving ahead of Nigeria simply because we have abuse the so called education. lie added that an educated man is an expensive machine for the development of f a nation, an average Nigerian student don't want to go to school because education graduates are been turn over failed in Nigeria especially when millions of Nigerian graduates o the labor market without available jobs, the so called research done every year are not been used by government to solve problems in the society.

Problem of High Cost of Data Subscription: Another major obstacle to E-learning in Nigeria is tied to the high cost of data subscription as MTN, Glo, Airtel charges are quite expensive to use by indigent students. The internet service required to connect to this e-learning platform sometimes is epileptic as some hitches experience are not impressive. The cost of purchasing the data bundle is so high which might be difficult for both students and lecturers. In cases where there is data, poor internet connectivity by

network providers is of major concern especially when it comes to video conferences where both the students and lecturers have to interact. The cost of accessing the internet in Nigeria is still on the high side; hence, some students find it a challenge to afford. The cost of a personal computer (PC) and Laptop are still very high in Nigeria considering the income level of an average worker in the country. Few students that are privileged to have a personal computer or laptop are not connected to the internet as this does attract extra cost which they cannot afford. Also, this poor internet connectivity as well as high cost of data has resulted in low attendance of students during the online classes. This low online class attendance has also been linked to the poverty situation in the country as some families and students might not be able to afford basic needs such as food and clean water let alone the expensive gadgets resources to sustain them for online learning.

Other Challenges: this other includes Poor budgetary allocation, corruption and unpreparedness are contributing factors to the inability of many public university institutions to embrace e-learning during the global COVID 19 pandemic in Rivers State. With low budgetary allocations comes deficiencies that do not allow for growth of E-learning and creates challenges when institutions try to embrace e-learning during pandemics such as the COVID-19. This also will definitely not allow infrastructures such as ICT platforms, electricity, teacher-tutor training amongst others needed to allow e-learning grow in Nigeria. However, some universities in

Rivers State have embraced e-learning as a means to ensure that their academic calendars are not totally distorted. These universities have devised the use of information and communication technology tools to facilitate learning during this pandemic. In Nigeria, several E-learning platforms have been adopted by these universities although these platforms are in-exhaustive. They include, Zoom, Microsoft teams, google hangout (meet), skype, bamboo learning, googleclassroom, Docebo, WIZIQ, Adobe captivate, Elucidat, Blackboard learn amongst others (Lei, 2020). These platform was also utilized by some universities in Rivers State as confirmed in numerous studies (Wilfred, et al. 2021, Emeodu & Obuzor, 2021).

Conclusion

Covid 19 pandemic was a deep mess to educational survival throughout the globe. The emergence required ideal management. The Management of university education comprises of its generic scope which includes: planning, organizing, controlling, etc, all the activities of the institution by utilizing resources effectively and efficiently to accomplish teaching, research and community service functions. It became imperative and instructive for the system managers to think out of the box by adopting e-learning technology to make the university system functional at all times, including emergency periods when it will not be convenient to keep the students in the campus. This paper has shown that electronic or e-learning was confronted with a lot of challenges in Nigerian universities,

especially during this pandemic crisis as this is the only medium available for learning, when movement is restricted and educational institutions of learning are on lockdown. From the ongoing discussion, one can say that online learning or e-learning faces many challenges ranging from learners' issues, educators' issues, and content issues. It was a challenge for institutions to engage students and make them participate in the teaching learning process. It is a challenge for teachers to move from offline/node to online mode as a result of fear of unknown, changing their teaching methodologies, and managing their time. It is challenging to develop content which not only covers the curriculum but also engage the students. The adoption of E-learning system in Nigerian universities during the heat of the pandemic reduced the issue of face-to-face contact learning that can aid in spreading the Corona virus.

Recommendations

The following suggestions were made by the researcher:

Need for Professional Development of all university staffs. This can be achieved through the training of all academic technical and administrative staff to become fully ICT complaint. Though this, the staffs will be able to manipulate E- learning gadgets.

There is need for universities to ensure the adoption of E-learning to assist and serve as a

alternative to the unconventional classroom teaching and learning in case of an emergency period such as COVID-19 pandemic.

Furthermore, it is imperative for the Rivers State educational managers to effectively forecast and employ experts in the area of ICT to further introduce programs that will enhance the productivity of the education sector. Through this effort, it will help to compete with the outside world even in the period of global pandemic lockdown as related to the covid-19 pandemic.

Again, there is need for appropriate fund being disbursed to the Universities in Rivers State and beyond. Such fund would help to procure ICT and E-learning gadgets, equipment, facilities, etc, for system functionality at all times to meet present and future challenges.

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