Global Influence Of Information And Communication Technology (ICT) On Education Amidst Covid-19 Pandemic

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ABSTRACT

Paramount among the global influence of Information and Communication Technology (ICT) is the core fact that ICT has paved way for the increased availability accessibility, exchange and usability of information among students despite their geographical locations. The restrictions and forced social distancing that came with the outbreak of Corona Virus globally which greatly affected the educational processes and mode of teaching further calls for the application of ICT in education. Educational globalization has to do with the wide spread, accessibility and unification of educational practices, thoughts and ideologies among nations of the world. The use of ICT in education can bring about an increase in productivity and efficiency in terms of global educational service delivery among nations of the world. Global trends and experiences have shown that using ICT in teaching and learning cannot be entirely exonerated from some observable internal and external encumbrances especially in this era of COVID-19 that has brought about the introduction to social and medical restrictions. Although, information technology greatly influences positively educational spectrum. This study adopted a literature survey to x-ray views of many authors on global influence of ICT on education on a wider scale. Thus, the study recommends that; heads of governments should come up with harmonized educational policies and legal frameworks for nation and states that will be predicated on increasing the level of accessibility and integration of educational practices among countries.

Keywords: Information and communication technology, Covid-19 pandemic, educational globalization, .

INTRODUCTION

In contemporary times, Information and Communication Technology (ICT) has often been regarded as the application of computers and telecommunication tools for storing, retrieving, transmitting and processing data in the educational enterprises. ICT, especially the internet has become a basic part of the daily educational life of selected stakeholders all over the globe. The use of ICT has increasingly made the globe a better place, considering its huge benefits. The benefits, however, may have some unintended consequences, if technology is not well deployed and managed (Ohaka, 2015). For the past two decades, most developed countries of the world have experienced noteworthy revolution that can be traced to ICT. It is indicative that many initiatives have been taken at the international level to support Africa's effort to develop a communication infrastructure and these efforts are designed to

enable African countries, including Nigeria to find faster and efficient ways to achieve sustainable development (Ogbomo & Ogbomo, 2008).

Information and Communication Technology is a digital technology used in the gathering, producing, storing, processing, manipulating, managing, transmitting or receiving of information. Also, ICT could be seen as an umbrella term used for any communication devise or application such as; radio, television, cellular phones, computers and networks, hardware and software, satellite systems and so on as well as various services and applications (Ohaka & Akpomi, 2018). It could also be regarded as an extension term used for Information Technology (IT) which stresses the responsibility of unified communications and the fusion and incorporation of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, middleware, storage and audio aids (Ogiagah & Ofule, 2014; Nwankwoala, 2017). There are many ICT tools commonly used globally for educational purposes during this era of COVID-19 pandemic. The ICT tools have been observed to have influenced education globally amidst the spread of the COVID-19 pandemic. The outbreak of COVID-19 brought about some attendant changes in teaching and learning in the global educational spectrum. Part of these changes also is the use of ICT which has greatly influenced global educational system. The numerous pertinence of ICT in the global educational system is indefatigably overwhelming. According to Ogiagah and Ofulue (2014), the businesses of teaching and learning in global education have created a robust nexus with computer technology in the new millennium more than ever before, both in size and in structure. They further argued that teachers and students across the globe now have to depend on the scalability and applicability of technology to enhance their traditional function.

However, regrettably to say that the global utilization and application of these information system tools does not come with ease, as it requires the development of certain level of competencies that will enable the users perform their tasks efficiently and effectively, thereby, enhancing the accomplishment of the objectives of the educational system (Okpokwasili, 2018). ICT obviously permeates all aspects of life, from the sport field, the schools to social life. ICT has become grossly indispensable for all levels of education (Dzansi & Amedo, 2014). But amidst the observable merits of ICT in global education, it is very regrettable to assert that the effective enforcement of ICT is still being confronted by some avoidable challenges which range from inadequate funding, lack of basic education, epileptic power supply, poor maintenance culture to the deployment of sub-standard ICT facilities. This however, has become a major concern for many stakeholders in relation to the use of ICT in global education.

LITERATURE REVIEW
The Concept of Information and Communication Technology
Information and Communication Technology is the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical data by a micro electronics based combination of computing and telecommunication (Shaibu, Oshiogwe & Mbaegbu, 2014). Amaewhule and Appah (2019) also defined ICT as the technology that supports activities involving the creation, storage, manipulation and communication of information, together with the related methods, management and application. This means that ICT contributes in making it realistic for the recording, storing, processing, retrieving and transmitting of information using technological facilities (Dambo & Wokocha, 2020). In line with the above conceptualization, ICT can be perceived as a genuine concept that can be used to refer to technologies that are used for collecting, storing, editing and passing on information in various forms. The above definition separates distinct fields of ICT and at the same time links them together so as to operate as an entity (Kundishora, 2017). ICT could also be referred to as all forms of electronic system that are used for broadcasting, telecommunications and all kinds of computer mediated communications. Thus, ICT is not just the bloom of educational activities, but also it will be the secondary option to improve the effective and meaningful educational process. ICT is a concept which has strategy as one of its core elements.

The main purpose of the strategy in ICT enforcement in global education is to provide the prospects and trends of integrating information and communication technologies into the general educational activities (Meenakshi, 2013). Therefore the components of ICT are those aspects or parts of the information technology that when integrated, make up the functionality or effectiveness of the system. They are parts that make up the complete system. However, these components in the view of

Gregersen (2021) could be explicated as follows: Computer Hardware, Computer Software, Telecommunications, Databases and Data Warehouses and Human Resources and Procedures.

The Concept of COVID-19 Pandemic
The World Health Organization (WHO, 2020) explains that Corona Viruses are large family of viruses that are common in animals and may cause illness in animals, including humans. In humans, several corona viruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). Coronavirus diseases (COVID-19) is an infectious disease caused by a newly discovered coronavirus known as the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). In the economic sphere, the International Labour Organization (ILO) (2020) propagates the view that COVID-19 poses great and unequal economic impact on some fractions of a given population bringing about the feeling of inequality among members of the society. These groups of the labour force that are economically propagated by ILO (2020) may be specifically identified as follows; workers with underlying health conditions, young persons who already face higher rates of unemployment, older workers who may face higher risk of developing serious health issues, women who are overrepresented in occupations that are at the front line of dealing with the pandemic, unprotected workers and migrant workers. In line with WHO (2020) recommendations, for the prevention of COVID-19, ILO (2020) also suggests that individuals should carry out physical distancing, maintain good hygiene practices, regularly clean surfaces, use personal protective equipment (PPE) among others.

The spread and impact of COVID-19 is grossly related to such factors as; environmental conditions; availability and effectiveness of medical care/infection prevention measures to mitigate the widespread; host factors such as age, host ability to transmit infection, immune status, nutritional status, concurrent infection with other pathogens, among others and pathogenic characteristics, including modus of transmission, transmissibility, virulence factor (Graham in WHO, 2007; Bauch, Lloyd-Smith, Coffee & Galvani, 2005). As an infectious disease, the following factors have been associated with COVID-19 emergence and spread; changes in human demographics and behaviour, the impact of industries, economic development and changes in land use, increased international travel and commerce, microbial adaptation and change, the breakdown of public health measures and sharing of animal with domestic or wild animals or birds (Lederberg, Shope & Oakes in WHO, 2007; Ostroff, McDade, LeDuc & Hughes, 2005). COVID-19 also leaves infected persons with mild to moderate respiratory illnesses of which one can recuperate without requiring special treatment except for old people and those with underlying medical problems like cardiovascular disease, diabetes, cancer and other chronic respiratory diseases (Giami, 2020). COVID-19 as it is today can be guided by the following principles; elimination and reduction of the dissemination of infectious agent from the source, administrative controls which involve the establishment of sustainable infection control infrastructures and activities, environmental and engineering controls which include methods to reduce the concentration of infectious respiratory aerosol (e.g droplet nuclei) and the use of personal protective equipment (Bupo & Ohaka, 2020).

Educational Globalization of ICT amidst COVID-19 pandemic
Educational globalization has to do with the wide spread, accessibility and unification of educational practices, thoughts and ideologies among nations of the world. It brings about a given process whereby all the encumbrances occasioned by territorial boundaries on social and cultural arrangements recedes and in which students become greatly aware of such a receding situation in the educational enterprise. Educational globalization simply entails the process of inter-cultural harmony and cross boundary exchange of ideas, knowledge and values between two or more unequal nations of the world through the advancement of ICTs. Educational globalization is seen as a process that encompasses two disparate and simultaneous processes: global comparisons of the international community and the intensification of educational consciousness of the world in general (Akpomi & Ohaka, 2018).

Similarly, educational globalization could be regarded as the advanced educational sustainable development of all intellectual activities across national and regional political boundaries. It finds expression in the increased movement of tangible and intangible educational material and services

including patent right through trade and investment and often educational expectorate through migration. Educational globalization can often be facilitated through the decrease in the bottlenecks created by government and/or through technological advancement especially in the terms of transportation and communication. Educational globalization is thus a centrifugal process and does not necessarily point to those subjective avenues through which educational interrelatedness is enhanced, but it also involves those essential and subjective issues pertaining to the consciousness of the world as also one social arena.

The term is often distinguished with what it is not rather that what it is. Nor is it universalism – values which embrace all humanity, hypothetically or actually. The educational links in disparate countries could also be considered to mean educational globalization and this link could be made realistic through ICT. Educational globalization is typically understood to be a societal and educational process that is reshaping the role of many nation-states in relations to global markets, agreements and traditions. Educational globalization usually leaves the system with two macro-level paradoxical effects on Nigeria's higher educational system. First, it simultaneously integrates and segregates. It tends to integrate world educational norms and cultures via ICT and less restricted movement of students. Second, it promotes educational competition between two competing parties especially among nation-states (Muhammad, Muhammad, Muhammad & Abdullah, 2011; Sahlberg, 2017).

It appears that the spread of educational globalization through the application of ICT is destroying everything that is valuable in our civilization. Educational globalization of ICT cannot simply be perceived as a higher form of internationalization via the application of information technologies in the theories and practice of education. In a sense, the new educational globalization may be the rival of the old internalization.

Global Influence of ICT on Education Amidst COVID-19 Pandemic

The use of ICT in education can bring about an increase in productivity and efficiency in terms of global educational service delivery among nations of the world. It has the potential of revolutionizing the quality of services delivered to students across nations by ushering in transparency, accountability and efficiency which are the bane of the Nigerian businesses (Oni, Oni & Gberevbie, 2015). Globally, ICT has been seen to be effective in terms of easing the work load of teachers, educational administrators and also in the area of enhancing their overall proficiency and productivity which usually culminates in improved service delivery. The availability and spread of ICT across nations now provides a seamless approach and system that makes it possible for them to collect data that enhance their ability to take decisions, organize and plan the office. Also, information technology makes it easier to send messages by telex, electronic mails (e-mails), fax and telephones (Phyllis & Peter, 2016).

Some of the positive influences that have tended to apply ICT in promoting global education may be further highlighted to include access to variety of learning resources, immediacy of information, anytime learning, anywhere learning, collaborative learning, multimedia approaches to education, authentic and currency of information, access to Online libraries and multiple communication channels (Ikpesu, 2021). He further listed other positive influences of ICT in education amidst the COVID-19 pandemic as follows; it makes it realistic for students to access information anytime and anywhere, constant accessibility of information which is revolutionizing and exploding, making it increasingly possible for education to meet the needs of all categories of learners around the world,

Hindrances to Global Influences of ICT on Global Education

Global trends and experiences have shown that using ICT in the act of teaching and learning cannot be entirely exonerated from some observable internal and external hindrances especially in this era of COVID-19 that has brought about the introduction to social and medical restrictions. Such challenges usually emanate from the complex and complicated nature of the use of ICT in global education. Some hindrances could be identified as having the tendency to hinder educational stakeholders from benefiting from the positive influence of ICT in global education. These hindrances could be generally classified into; material and non-material challenges, teacher-level and school-level challenges and intrinsic and extrinsic challenges (Ohaka & Akpomi, 2018; Salehi & Salehi, 2012). These challenges are summarized as follows:

1). Insufficiency in the number of computer appliances or softwares.

2). inadequate ICT literacy and skills, the difficulty for integrating ICT into instruction and insufficient time for teachers.

3). lack of confidence, shortage of time for retraining and resistance to change for the instructors and students. .

4.). lack of effective training in solving technical problems and lack of access to resources for the students.

5). Lack of access, time, administrative support, resources and training.

6). lackadaisical attitudes, pessimism, and such beliefs and practices that promote resistance to change.

Foremost among these challenges is the lack of professional development of some educational stakeholders especially the school administrators, teachers and students in terms of the use of ICT for global education amidst the COVID-19 pandemic. These sustainable professional developments for global pedagogy are meant to enhance educational processes and practices internally and externally among nations of the world (Nagel, 2013). Also, insufficient training and retraining of teachers on the use of ICT, lack of maintenance of the existing equipment, inadequate equipment and infrastructure deficit, severe power outage, poor enforcement of extant regional and international policies governing the ICT utilization in global education generally, inaccessibility to ICT resources, dearth of trained teachers on the application of new technologies in pedagogical processes and other pedagogical issues constraints, are also among the unscrupulous elements directly hindering the total utilization of ICT in global education (Gbadamosi, 2009; Jegede & Owolabi, 2008; Onojetah, 2012; Okoro, 2013; Njoku, 2015).

On their own part, Umeano and Ifi (2019) highlighted the possible financial constraints, in an emergency that constitutes some serious challenges encumbering the global influence of ICT in education as; lack of funds for procurement of computers, dearth of grants from donor agencies, lack of funds for training and retraining of teachers and low purchase of technology for teaching. Zango (2019) further stresses that without constant power supply, the ICT facilities and equipment cannot be fully used for global education purposes. Aboderin and Kumuyi (2013) also revealed in their study that the perceived hindrances discouraging the use of ICT in global education purposes may involve the following issues; shortage of online teaching and assessment tools such as; internet, computer, e-mail facilities, multimedia, scanner, printer, among others. It can also be pointed out and maintained that amidst the COVID-19 pandemic, dearth of trained teachers in ICT application and unyielding attitude of students to change are among the possible hinderances that tends to prevent educational stakeholders from tapping from the global influence of ICT in education (Okoli & Wagbara, 2016; Akasi & Nwabufo, 2016; Nedum-Ogbede, 2016; Olowookere & Iyiola, 2016; Ogonu, 2019). Most students are naturally adamant and conservative in nature giving the utmost tendency to prefer existing or traditional situation to a novel innovations or changing global trends. Thus, the inability or in some cases, blatant refusal of some students in nation states to embrace ICT in global education whole-heartedly amidst the restrictions and emerging trends occasioned by the COVID-19 pandemic (Olowookere & Iyiola, 2016; Ogonu, 2019).

Strategies for Surmounting the Challenges to Global Benefits of ICT in Education

Although, information technology influences global education positively, there is still concern on how to overcome some of the challenges associated with the use of ICTs in contemporary times. The information technology hindrances often times, bring about delay in the execution of educational policies and pedagogies. However, to address some of the hindrances associated with ICTs in global education amidst COVID-19, the school organization needs to undertake an ICT professional development awareness for educational stakeholders especially teachers and students. This will help to arm the global educational stakeholders with relevant skills requisite for the effective operation of technologies for the organizational growth and development of the school organizations (Hilkemeijer, 2021). He also posited that global educational stakeholders need to be made to understand and identify the key components of ICT capability so as to promote the effective use of ICT in the school environment.

As part of the conscious efforts to solve the educational hindrances of information technology encountered by global educational stakeholders, the school as an organization needs to make deliberate efforts to address the issues surrounding the insufficient equipment and connectivity

associated with information technologies in the school especially in those school organizations that focuses on e-learning. This can be properly addressed through the provision of adequate ICTs that enhances teaching, learning and broad access of information within the school. Intelligent tutoring and adequate training of members of school organizational staff is another major strategy that can bring about the elimination of some of the encumbrances associated with the use of ICT in the work place as this can contribute in arming educational stakeholders (especially teachers and students) with the necessary literacy and skills on how to use information technologies in the classroom whether offline or online (Johnson, Jacovina, Russell & Soto, 2016). Educational stakeholders should remain up-to-date with their technological expertise by expanding professional development in ICT application given that technology is constantly changing as it relates to its utilization and application in education. To attempt to contain the possible bottlenecks associated with the use of information technologies in the school system, teachers and students needs to seek the assistance of relevant agencies (public or private) in order to provide on-going training in the areas of ICT applicability. This training support could be in the form of offering free professional development courses, online training, and continuing support to teachers and students. Teachers and students should also boost their self-confidence in the use of these information technologies for the actualization of organizational productivity through the use of information technology. Most teachers and students who strongly resistant the use of information technologies for the day-to-day activities of the school system should be made to realize that out-rightly resisting the use of ICT for teaching and learning can bring about overall retardation in the productivity of the overall teaching and learning process (Johnson, Jacovina, Russell & Soto, 2016).

CONCLUSION
The global influence of information and communication technology on education in the wake of COVID-19 has remained a topical issue among nations of the world. Considering this current global trend, it has become incredibly requisite for the application of ICT in education. ICT in education paves way for the wide spread and easy access of education globally. ICT is a veritable and effective tool for the internationalization of education among students in the international community as it also contributes in making it possible for students to have unrestricted access to qualitative information anytime and anywhere in the world.

RECOMMENDATIONS
In line with the expositions presented above, the study recommends the following for further policy and administrative actions;
1. Heads of government of nation-states should come up with harmonized educational policies and legal frameworks for nation-states that will be predicated on increasing the level of ICT accessibility and integration into educational practices among countries.
2. ICT is no doubt a veritable and potent tool for the widespread of educational ideas, thoughts and theories among educational stakeholders in different countries of the world. Thus, government should provide the necessary ICT facilities that will further help to advance the trend to the benefit of all relevant stakeholders.
3. The current state of the ICT in educational institutions globally should be intensified and continually remain sustained. This is because; ICT is a phenomenon that must be given utmost consideration it deserves if the benefits of global education must be harnessed.

REFERENCES.
Aboderin, O.S., & Kumuyi, G.J. (2013). The problems and prospects of e-learning in curriculum implementation in secondary schools in Ondo State, Nigeria. *International Journal of Educational Research and Technology, 4*(2), 90-96.
Akasi, S.E., & Nwabufo, N.B. (2016). Utilizing modern instructional resources to improve teaching and learning of business education. *Nigerian Journal of Business Education, 3*(2), 186-193.
Akpomi, M.E., & Ohaka, N.C. (2018). Higher education globalization: Rationale and corporate onus of regulatory agencies in Nigeria. *International Journal of Innovative Education Research, 6*(1), 55-64.

Bauch, C.T., Lloyd-Smith, J.O., Coffee, M.P. & Galvani, A.P. (2005). Dynamically modeling SARS and other newly emerging respiratory illnesses: Past, present and future. *Epidemiology, 16*(6), 791-801.

Dambo, B. I., & Wokocha, K. D. (2020). Assessing the integration of new office technologies in Rivers State public service administration. *Nigerian*
    Journal of Business Education, 7(2), 375-386.

Dzansi, D.Y. & Amedzo, K. (2014). Integrating ICT into rural South African Schools: Possible solutions for challenges. *International Journal of Education Science 6*(2), 12-20.

Gregersen, E. (2021). 5 Components of Information Systems. Retrieved from www.britannica.com on March 11th, 2021.

Hilkemeijer, M. (2021). Teaching Strategies for the Classroom: Overcome Technical Issues with Technology in the Classroom. Retrieved from ictesolutions.com.au on March 12, 20121.

Ikpesu, O.C. (2021). Importance of Information and Communication Technology in Education. Lesson Note on the course, Global Issues in Business Education presented on March 24th, 2021 to MSc. students of Business Education.

International Labour Organization (ILO) (2020). COVID-19 and the world of work: Impact and policy responses. Retrieved from https://www.ilo.org/wcmsp5/groups/public on August 27th, 2020.

Jegede, P.O., & Owolabi, A.J. (2008). Computer education in Nigerian secondary schools: Gaps between policy and practice. *Meridian: A Middle School Technology Journal, 6*(2), 111-119.

Kundishora, S.M. (2017). The role of information and communication technology (ICT) in enhancing local economic development and poverty reduction. Retrieved on October 20th, 2017 from https://www.ict_economic_development_and poverty_ reduction.

Meenakshi (2013). Importance of ICT in education. *Journal of Research & Methods in Education. 1*(4), 51-62.

Muhammad, A.C., Muhammad, A.F., Muhammad, K.B. & Abdullah, I. (2011). Globalization and its impact on the world economic development. *International Journal of Business and Social Science. 2*(23), 291-297.

Nagel, D. (2013). Challenges of Technology. Retrieved from www.journal.com/article on the 10th of December, 2019.

Nedum-Ogbede, P.O. (2016). New technologies in business education: Challenges and the way forward. *Nigerian Journal of Business Education, 3*(2), 99-106.

Njoku, C.U. (2015). Critical incidents in the Nigerian education system: Challenges to business educators. *Nigerian Journal of Business Education, 2*(2), 1-17.

Ogonu, O.G. (2019). Challenges of the use of new technologies in teaching of business education course in tertiary institutions in Rivers state, Nigeria. *Nigerian Journal of Business Education, 6*(1), 318-320.

Ohaka, N.C. (2015). Information technology: Tool for socio-economic development. (Unpublished project) submitted to Information Technology Academy, Rivers State University (ITA RSU) for the award of Diploma in ICT Competence.

Ohaka, N.C., & Akpomi, M.E. (2018). Information and communication technology (ICT): A potent tool for problem-solving in Business Education Program. *International Journal of Innovative Information Systems & Technology Research, 6*(4), 9-17.

Okoli, B.E., & Wagbara, S.O. (2016). Use of new technologies in the instructional delivery of business education: The perception of business educators in tertiary institutions in Rivers State. *Nigerian Journal of Business Education, 3*(1), 99-110.

Okoro, J. (2013). Strategies for enhancing the teaching of ICT in business education programmes as perceived by business education lecturers in Universities in South-South Nigeria. *International Education Studies, 6*(10), 78-89.

Olowookere, S.O., & Iyiola, M.A. (2016). Challenges and prospects of the application of ICT in the teaching of business subjects. *Nigerian Journal of Business Education, 3*(2), 175-185.

Oni, S., Oni, A., & Gberevbie, D. (2015). Electronic mediated administration and public service delivery in Nigeria. *Acta Universitatis Danubius, Administratio, 7*(2), 1-8.

Phyllis, A.O., & Peters, A.S. (2016). The impact of modern office technology on the secretary's performance in some selected business organizations in the Takoradi Metropolis. *ADRRI Journal of Arts and Social Sciences, Ghana, 13*(12), 1-9.

Sahlberg, P. (2017). Teaching and Globalization. Retrieved from https://www.Teaching-and-globalization.pdf on November 25th, 2017.

Salahi, H. & Salahi, Z. (2012). Challenges for using ICT in education: Teachers' Insights. *International Journal of e-Education, e-Business, e-Management and e-Learning, 2*(1), 61-75.

Shaibu, O.G., Oshiogwe, J.A. & Mbaegbu, R.E.V. (2014). Business education curriculum and the information and communication technology. *Nigerian Journal of Business Education, 2*(1), 80-91.

Strielkowski, W., Gryshova, I., & Kalyugina, S. (2017). Modern technologies in public administration management: A comparison of Estonia, India and United Kingdom. *Administrattiesi*

Umeano, N.E., & Ifi, C.C. (2019). Extent of integration challenges of new technologies in teaching business education courses in tertiary institutions. *Nigerian Journal of Business Education, 6*(2), 235-245.

World Health Organization (WHO) (2020). Laboratory biosafety guidance related to coronavirus disease (COVID-19). Interim Guidance. Retrieved from https://apps.who.int/iris/bitstream/handle on August 27th, 2020.

Zango, A.U. (2019). New technologies in business education in Nigeria: Issues and trends. *Association of Business Educators of Nigeria Conference Proceedings. 6*(1), 573-578.