

PROMOTING EQUITABLE ACCESS TO UNIVERSITY EDUCATION THROUGH ONLINE LEARNING SYSTEMS

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ABSTRACT

Information Technology-Assisted Learning (ITAL) is one of the evolving areas of Information Communications Technology (ICT) revolution which has attracted much attention and subsequent investments around the world due to its potentials in addressing the socio-economic challenges arising from literacy gap, ever-growing population, economy, increasing demand for higher education, etc.

Though used in some limited scopes such as online learning, virtual learning, e-learning, etc., ITAL depicts a learning environment that lies outside the static boundaries of the physical classroom that conventionally involves a tutor relaying the learning material directly to the recipients often in a physical classroom setting. In the last decade, ITAL has taken a toll on the design of academic programs especially in developed countries leading to high flexibility and unlimited possibilities in the use of the scarce human and material resources in achieving great feat in educational development. Consequently, a special crop of Universities called Online Universities whose mode of content delivery is through online classrooms and other internet-based platforms has emerged. However, the situation is different in Nigeria, a country whose educational policies are somewhat inflexible as to adapt to changing circumstances. This paper is an attempt to review the current state of affairs in Nigeria's University education policies in a bid to draw attention to the urgent need to resuscitate the deteriorating system through the introduction and standardization of online learning platforms supported by cutting-edge information technologies in order to remedy the inequities across the various social layers of the society in need of higher education. This paper employs an

exploratory method in data gathering with emphasis on documentary evidence, secondary data across online databases, policy documents, legislations, and survey of modern information technologies. Analysis is based on descriptive references to and submissions on various educational developments and problems with policy implementation as they affect equity and access to University education. Thereafter, recommendation is made towards promoting accessibility to University education through ITAL and subsequent standardization and promulgation of implementable policies that will drive the actualization of proposed system in Nigerian Universities.

KEYWORDS: Online Learning, Online University, E-learning, Open and Distance Learning, Universities in Nigeria, Tertiary Education

I. INTRODUCTION

For over two decades, Nigeria's education system has remained a shadow of itself amidst the budgetary allocations and licensing of many private higher learning institutions including Universities, Polytechnics, Monotechnics, Colleges of education, Colleges of Agriculture, Colleges of Health, specialized institutions,^[1] Innovative Enterprise Institutions (IEIs),^[2] and Vocational Enterprise Institutes (VEIs).^[3] Table 1 shows the distribution of these institutions. Qualifications awarded include but not limited to doctorate, masters, bachelor's degrees, postgraduate diploma, higher national diploma, national diploma, Nigeria certificate in education (NCE), national innovation diploma, higher innovation diploma, etc. The list of awards seems endless. Nigeria with an estimated population of 180 million people is serviced by six hundred and seventy (670) tertiary institutions (that spanned across Universities, Polytechnics, Colleges of Education, Health, and Agriculture respectively, Innovative and Vocational Educational Institutes) (see Table 1). It is submitted that this number of Institution is grossly considered inadequate in terms of infrastructure and human capacity. The inadequacy in infrastructure to cater for the teeming population is unarguably a major factor that contributes to the high cost of education and inequity in the world's most populous black nation.^[4] The basic needs for human survival have long been identified as food, shelter, and clothing. Though these basic needs are very vital being part of the set of physiological needs identified by Abraham Maslow,^[5] they are however affected by a universal catalyst, education. In other words, the creation of sufficient food, shelter, and clothing in a society may be greatly dependent on how educated that society is. "Education is very important for sustaining and developing the people".^[6] Experience, wisdom and the ability to cater for

oneself, communities and nation are all the result of good education.^[6] There is no gainsaying that Education is an agent of change, an instrument of socioeconomic and political stability that leads to the entrenchment of good morals, ethics, learning, and sustainable development.

Table 1: Tertiary institution distribution in Nigeria as at February 2018.

S/No	Higher institution group	Number	Federal regulatory agency
1	Federal Universities	40	National Universities Commission(NUC)
2	State-owned Universities	46	NUC
3	Private Universities	74	NUC
4	Federal Polytechnics	28	NATIONAL BOARD FOR TECHNICAL EDUCATION(NBTE)
5	State-owned Polytechnics	41	NBTE
6	Private Polytechnics	42	NBTE
7	Federal Colleges of Agriculture	19	NBTE
8	State-owned Colleges of Agriculture	15	NBTE
9	Federal Vocational Enterprise institutes(FVEIs)	3	NBTE
10	State-owned Vocational Enterprise institutes(FVEIs)	1	NBTE
11	Private Vocational Enterprise institutes(FVEIs)	73	NBTE
12	Federal Specialized Institutions	22	NBTE
13	State-owned Specialized Institutions	3	NBTE
14	Private Specialized Institutions	2	NBTE
15	Federal Innovative Enterprise institutes(FIEIs)	6	NBTE
16	State-owned Innovative Enterprise institutes(FIEIs)	2	NBTE
17	Private Vocational Enterprise institutes(FIEIs)	132	NBTE
18	Federal Colleges of Health	19	NBTE
19	State-owned Colleges of Health	13	NBTE
20	Private Colleges of Health	3	NBTE
21	Federal Colleges of Education	22	National Commission for Colleges of Education (NCCE)
22	State-owned Colleges of Education	47	NCCE
23	Private Colleges of Education	17	NCCE
		670	

University Education: Colonial and the Post-colonial developments

Volumes of literature abound on the trends and growth of education in Nigeria.^[7,8,9] Be that as it may it is considered worthy to recount briefly some of the vital aspects of such rigorous history considering the present state of affairs and the need to reposition the education sector generally though emphasis is laid on the higher education subsector especially the Universities.

Formal education in Nigeria is traced to the colonial era and dates back to 1840s following the arrival of the Christian missions especially church missionary society and the Methodist

missions in Nigeria.^[10] The Baptist mission arrived in 1850 and later followed by the Catholic missions in 1860 that built a Primary School in Lagos 1869.^[11] The Methodist missionaries were known to have established the first schools and hospitals which provided formidable channels of reaching the people.^[12] However, Secondary education never started till 1859 with the first secondary school being CMS Grammar school, Lagos.^[11] In 1872, the missionaries received a boost through financial donations from the British colonial government. The first formal intervention by the colonial government was made in 1882 when it drafted the Education ordinance document aimed at taking over the control of education from the missionaries. The document classified schools according to ownership i.e. Government and Private. Government category was to be funded entirely through public funds whereas the private ones receive a little aid from the public fund. The development never deterred the missionaries in their quest to carry out their humanitarian activities and in November 1, 1886^[13] the Baptist Academy, the first Baptist Secondary School in Nigeria, was officially opened on Mission Compound, Lagos, by Rev. William J. David with Samuel Morohundiya Harden as Principal. Though there were proliferation of primary and secondary schools in Nigeria with the majority owned by the missions, University education did not receive any notable attention rather the missions were able to send few Nigerian beneficiaries of such higher education opportunities abroad for University education. The establishment of the first post-secondary institution (Yaba Higher College) in Nigeria occurred in 1932, seventy-three (73) years after the first secondary school in the land.

A century after the arrival of the missions, University education in Nigeria materialized following the Elliot Commission of 1943, which led to the establishment of University College Ibadan (to be affiliated to the University of London) in 1948. 12 years later after the first University, the eastern regional government established its own University, to be called the University of Nigeria at Nsukka located in the current Enugu State. Prior to the establishment of University of Nigeria Nsukka, the then federal government had in 1959 commissioned a panel of inquiry, known as the Ashby commission and saddled with the responsibility of providing the government with an authentic advice regarding its higher education needs spanning the next two decades. The adoption and subsequent implementation of the Ashby report gave rise to the establishment of three more Universities: University of Ife at Ile-Ife in 1962 later renamed Obafemi Awolowo University, Ile-Ife) after the veteran politician and premier of the then western region; Ahmadu Bello University at Zaria in 1962 and University of Lagos in 1962. The University College Ibadan became a full-fledged

university in 1962.^[14] University of Benin was later established in 1970 following the creation of the Midwestern region thus bringing the total number of Universities at that date to six (6) consisting of two federal universities (University College Ibadan and University of Lagos) and four (4) regional universities. These were the first generation universities. Between 1975 and 1980 were established seven (14) more universities called the second generation universities. These were: Universities of Calabar, Ilorin, Jos, Sokoto, Maiduguri, Port Harcourt and Ado Bayero University, Kano.

In 1980, statistics had it that 12 million pupils were in admission into primary school, 1.2 million into secondary school, whereas 240,000 students were on admission into the then thirteen federal universities.

The next decade (1980-1990) would mark the establishment of a new crop of five federal universities to cater for technological developments that were in dire need in the country. These federal universities of technology were located in Akure, Bauchi, Makurdi, Owerri, and Yola respectively. Added to these were the State universities established by the governments of Akwa Ibo, Imo, Lagos, Ondo, Oyo and Cross-River States respectively^[15] following federal government's granting permission to the States to establish universities. These Universities were collectively called the third generation Universities. The argument forged by state governments were that their interests were not met by the federal universities, and thus, they regard themselves as educationally disadvantaged.^[16] As noted by Adeyemo,^[16] It has been alleged that the entry requirements of the state universities are not as rigorous as those of the federal universities hence the offering of remedial courses in State Universities to assist students whose entry scores are low.

Within this period, there were seldom any issues regarding access and equitable distribution of educational infrastructure, poor funding, inadequate infrastructure and monumental corruption in the education sector. The various universities were regarded as centres of excellence.

Between 1990 and 2000, the educational administration policy was manipulated to accommodate private ownership of Universities. Notably three premier private Universities: Igbinedion University Okada, Madonna University, Okija and Babcock University Ilishan-Remo(owned by the Seventh day Adventist Church Nigeria) were licensed in 1999. In

addition to the three private universities, ten(10) state-owned universities and three(3) more federal universities were established to boost the education needs of the growing population. From 2000 to 2017, there was a paradigm shift as Nigeria witnessed a massive proliferation of private universities which have outnumbered the federal and state-owned ones in number having grown from just 3 in 2000 to 74 at the end of 2017.

II. Statement of the Problem

Higher education in Nigeria is fraught with a dozen of problems. Some of these are: corruption, governance failure, cultism, nepotism, poor funding, decaying infrastructure, weak curricula, inadequate human capacity, etc. Amidst these plethora of problems is the teeming population of over 180 million people and for which the majority are within the higher education seeking bracket. With the growth recorded so far in the number of higher institutions one could but conclude that whereas the educational institutions grow at an arithmetic progression, the demand for education grows at a geometric progression thus posing serious challenges in terms of accessibility, equity, and affordability. This may have been the single most significant reason conclusion has been made in some quarters that education is not for the poor as against the constitutional provisions in chapter 2 of the Constitution^[17] which are to the effect that the Government shall direct its effort to ensure that there are equal and adequate access to education at all levels.

III. AIM AND OBJECTIVES

The aim of this paper is to examine the state of university education of Nigeria with respect to accessibility and equitable distribution of educational resources vis-à-vis the higher education policy and make a case for the implementation, standardization, and promotion of online learning in Nigeria. The specific objectives of this paper are:

- a. To review the Nigeria's legal position as to the promotion of higher education among its citizenry;
- b. Examine the objectives and goals of higher education policies and the challenges confronting implementation of such policies;
- c. Discuss the reality underpinning University education administration identifying the drawbacks in the system;
- d. Discuss the online learning mode of education as a complementary solution with a view to bringing to the fore the various benefits and highlighting the fears and challenges that may be associated with its implementation.

IV. Research Questions

In a bid to resolve the specific objectives of this paper, the following questions are raised:

- a. Whether or not the Nigerian government has laws and policies that promote equitable access to education at the University level?
- b. Whether or not the purpose of University education could be satisfied through online learning systems?
- c. Whether or not the number of Universities in the country is adequate to cater for the Nigerian population seeking University education?
- d. Whether or not online learning system could be rightly run to offer an alternative mode of learning and complement the traditional university system having regard to the technological advancements around the globe and the promotion and acceptance of such mode of learning in developed countries?

V. Concept of Learning

Learning is synonymous with words like education, study, training, tuition, and many others. It has been defined in many different ways having regard to the various forms of learning such as formal, non-formal, and informal learning. It has been defined as a change in behavior, thoughts, and attitudes resulting from education and/or experience. Mike Sharples posited that learning is “a labile process constantly open to change and adaptation, mediated by knowledge and technology in supportive teacher, learner and peer relationships.”^[18] Sharples also described learning “as a process of coming to know, by which learners in cooperation with their peers and teachers, construct transiently stable interpretations of their world.”^[19] Gross^[20] defines learning as process of acquiring new or modifying existing knowledge, behaviors, skills, values, or preferences. Learning is classified into different types by different authorities but the common classification is shown in figure 1. The discussion of the various types is beyond the scope of this paper however, E-learning will be discussed.

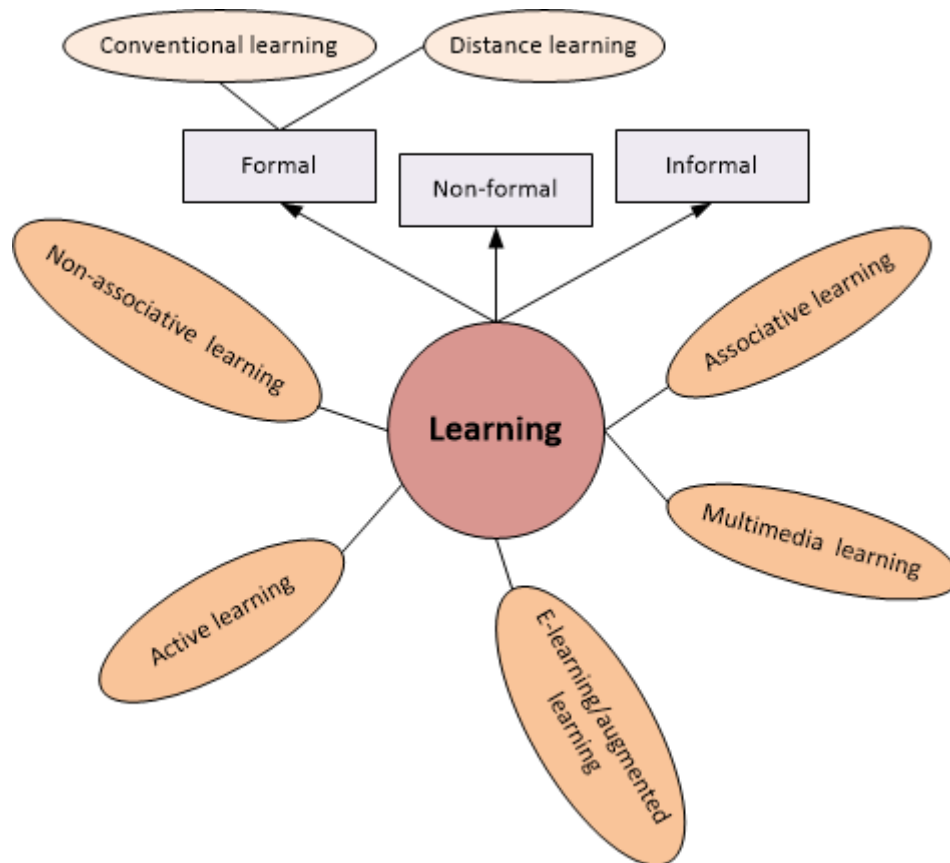


Figure 1: Learning and its subtypes.

Distance Education/Learning

Keegan^[21] defines distance education as, “the provision of education and training at a distance by Open Universities, distance education institutions, and distance education departments of conventional institutions. According to^[21] distance learning “incorporates all forms of instruction in which instructor and student are physically removed from one another by time or space from traditional correspondence courses to web-based instruction.” Distance learning has also been defined as the education of persons who may not always be physically present at a school environment.^[22,23] Distance education programs may be classified into the following groups:

- a. Correspondence: whereby the academic programs are conducted through regular mail exchanges between the provider and the recipient. Course materials, continuous assessments, and exams are often sent to the student by post and the student in turn completes and returns the required documents through postage.
- b. Online learning: this is conducted either synchronously or asynchronously with the Internet as its major mode of content delivery.

- c. Tele-course/Broadcast programs: Under this method, the provider of the education program delivers content to its students through radio or television or both.

Online Learning as a Subset of Distance Learning

Desmond Keegan^[21] opines that online learning is best seen as a subset of distance education because the world of education is divided into two halves of conventional education and distance education. He also says that the first distance educators broke the 2000-year tradition of face-to-face learning and replaced it with a largely individualized form of interaction based on an a personal form of communication and mediated by technology. E-learning is any dissemination of educational knowledge over the Internet. In other words, e-learning is a subset of technology-based learning. The economic times of India^[24] defines e-learning as a “learning system based on formalized teaching but with the help of electronic resources”. While traditional teaching may be based in or out of the classrooms, the use of computers and the Internet forms the major component of E-learning. E-learning may also be regarded as a network enabled transfer of skills and knowledge whereby the delivery of education is made to a large number of recipients at the same or different times. With the rapid advancement in technology and learning systems, e-learning is now widely embraced by the masses.^[24] Computers were the bedrock of e-learning revolution and with the passage of time, smartphones, tablets, etc., have now assumed importance place in the classrooms for learning. Books are gradually getting replaced by electronic educational materials like optical discs or pen drives. Knowledge can also be shared via the Internet, which is accessible 24/7, anywhere, anytime.^[24] The basic structure of an online learning system is shown in figure 2. A typical online environment consists of content access devices, content storage, content acquisition, a high speed internet backbone, learners, content managers, and the academic domain experts.

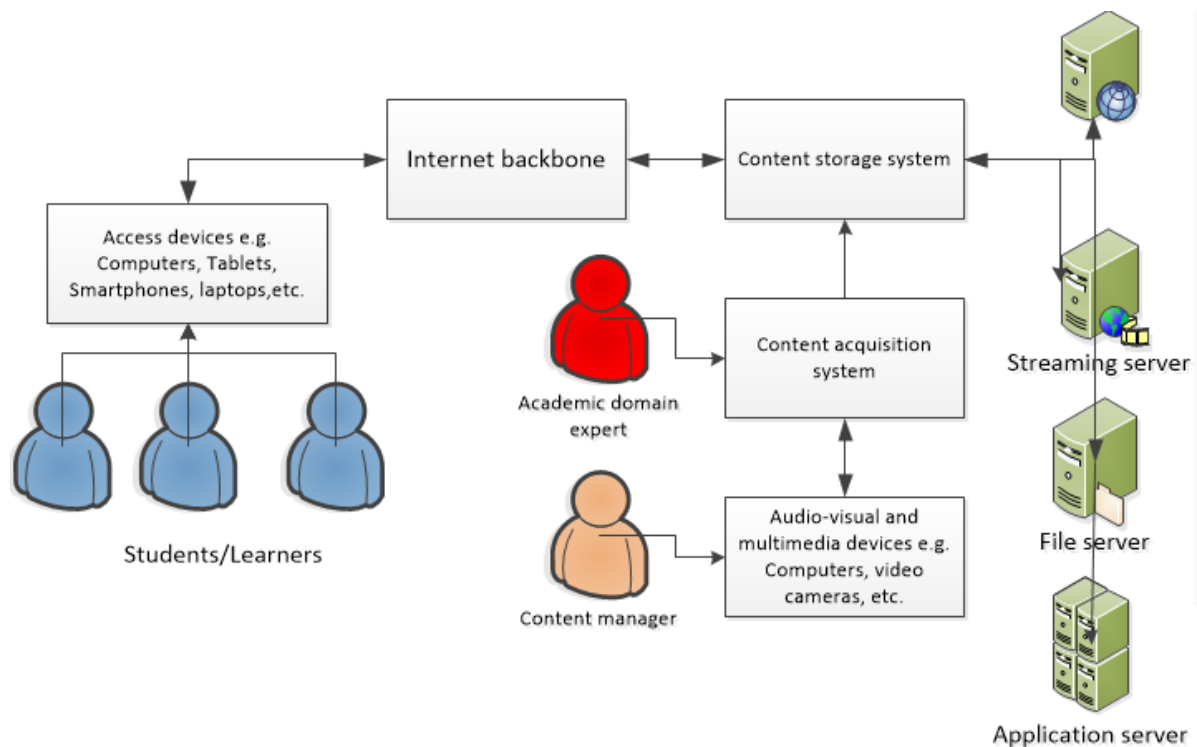


Figure 2: Architecture of an online learning environment.

Conditions precedent to effective online learning

Moore^[25] purported that three core types of interaction are necessary for quality, effective online learning. These are:

- Learner–Learner: involves communication between and among peers with or without the presence of the tutor;
- Learner–Instructor: involving student teacher communication;
- Learner–Content, whereby the learner interacts with content which would result in changes in learners' understanding, perceptions, and cognitive structures).

It should be noted that Moore's specifications above were centred around the learner without any reference to infrastructure, qualifications and skills of the e-learning technical /academic team, regulatory standards, etc. It is important to note that the effective running of any online academic system requires a vehicle which is good Internet facility with good dedicated bandwidth. Internet requirements are important as an ideal e-learning facility exploits technologies of teleconferencing; video conferencing; online classroom- learning environment - created via the use of a learning management system that allows students and tutors/facilitators to connect either synchronously (in real-time, with instructors/tutors and students meeting at same time) or asynchronously (involving interaction between tutors and

students occurring intermittently with a time delay), online learning management software, content acquisition software, servers(web, database, file, streaming, etc.), and other vital instrumentation. Of vital importance is standardization. Every e-learning facility aimed at providing or supporting university education must be judged against best international practices and standards. Regulatory authorities do come into play here as the institution willing to implement such project shall as matter of procedure seek guidelines and subsequent approval from the regulatory/control agency. In Nigeria, the National Universities Commission(NUC) has powers conferred on it to regulate the operations of the nation's universities hence their guidelines and approvals are necessary for any university to operate an online learning system. It is a public knowledge that the NUC has guidelines and benchmarks regarding open and distance learning but it is not clear whether or not there is any such guidelines and standards for operating a purely online learning system as no university in the country at present operates full online learning system.

Online learning Devices

Several platforms have and are being used for online learning. These platforms include: cell phones, laptop computers, palmtop computers, and GPS systems. Common features of online learning platforms include: Communication tools, Games, Global Positioning Systems (GPS), Information managers, Internet and Multimedia, Radio Frequency Identification (RFID) transponders, Bluetooth technology, Instant messaging software, Mass storage, Wireless access points (WAPs), Screencast and screen casting. A screencast is a computer-based presentation tool that may be used online or offline, and may be viewed as a sequence of dynamic screenshots presented in a format that combines the features of a PowerPoint presentation and a video podcast.^[26] Classroom response systems (CRS), also called audience response system, or clicker are also component of some learning environment. It is a device that allows interactivity between a presenter and his or her audience. They combine wireless hardware with a presentation system such as Microsoft PowerPoint. One of the most popular CRSs is distributed by TurningPoint Technologies. Some teachers use the TurningPoint audience response system in subjects to anonymously poll their students on the topics under discussion. The instructor would show a PowerPoint slide that contains the question; each student answers by pressing the response button on his or her "clicker." Classroom response systems are an effective tool for formative assessment in the classroom. However, they are expensive to implement and lacks mobility. Some advantages of CRS are:

- i. Students can get much more feedback than normal.

- ii. They can see where fellow students share their misunderstandings and that they are not alone.
- iii. Since polling is anonymous, students are not as likely to be embarrassed if they answer a question incorrectly.
- iv. Teachers can engage their students in knowledge-rich conversations through peer instruction.^[27]

Problems and challenges militating against the operation of Online Learning Universities in Nigeria

Generally, the state of University system in Nigeria is almost comatose as a result of the many challenges such as: weak curricula, inadequate human capacity, quality of research, governance, corruption, accountability, funding, regulation, infrastructure, etc.

There is no doubt that the foregoing problems will also mar the operation of an online university. This is because, infrastructure is key to having an online learning facility. For instance, for a vibrant online university, a good dedicated internet bandwidth is required. In addition to internet facility is the hardware and software technologies as stated above. With respect to Internet, the distribution of services is still skewed across Nigeria. Locations such as Lagos in southwestern Nigeria, Port Harcourt in Rivers State of Southern Nigeria, and Abuja (the nation's capital territory in the North-central of Nigeria) are most favoured as they have relatively reliable Internet. The implication is that online universities located in such locations will have an edge over other locations across the country.

VI. The Constitutionality of Access to Quality University Education in Nigeria

Higher education in Nigeria is aimed at providing the needed manpower to accelerate the socio economic development of the nation. University education is a specialized learning aimed at providing elite demonstrable qualifications that could create and promote social change and economic development. Across the globe Universities are recognized as centres of excellence, where knowledge is acquired and disseminated to those who require it. Their outputs are critical factors for the maintenance and adaptive structures of the society. Due to the attached importance to higher education the world over, various governments have promulgated laws and legislations to ensure that every person has access to education. Nigeria like other nations of the world is not left out in this struggle. It could be recalled that the fundamental objectives and directive principles of state policy which includes the

educational objectives of Government is clearly enshrined in Chapter 2, Section 18 of the Constitution of the Federal Republic of Nigeria^[17] and provides that:

- (1) Government shall direct its policy towards ensuring that there are equal and adequate educational opportunities at all levels.
- (2) Government shall promote science and technology
- (3) Government shall strive to eradicate illiteracy; and to this end Government shall as and when practicable provide:
 - (a) Free, compulsory and universal primary education;
 - (b) Free secondary education;
 - (c) Free university education; and
 - (d) Free adult literacy programme.

Though the above chapter of the constitution has been held as non-justiciable by virtue of Section 6(6)(c) of same Constitution^[17] and affirmed in the landmark case of Archbishop Anthony Olubunmi Okogie & others v. Attorney General of Lagos State^[28] though questioned in many quarters having regard to the true meaning of a constitution as posited by the Nigeria Supreme Court in the case of Federal Republic of Nigeria v. Osahon^[29] wherein it held that the constitution of any country is the embodiment of what a people desire to be their guiding light in governance, their supreme law, fountain of all their laws; it is submitted that a constitution is not at any given situation expected to or presumed to contain ambiguity hence all of its provisions must be given meaning and interpretation even with the imperfection of the legal drafts man.^[30] Furthermore, relief may be had from Section 13 which provides that: "It shall be the duty and responsibility of all organs of government, and of all authorities and persons, exercising legislative, executive or judicial powers, to conform to, observe and apply the provisions of this Chapter of this Constitution". Thus, under a government driven by social justice, equity, and good conscience, the provision of access to educational institutions irrespective of social class would be considered an ultimate objective that should be pursued in such a way that there wouldn't be social and legal squabbles from any quarters of the society.

In Nigeria, the education system is based on the National Policy on Education document of 1977 which was revised last in 2004. The Federal Ministry of Education (FME) is saddled with the responsibility of ensuring the educational policy and procedures are implemented. The ministry also ensures that the policies of the various states operate within the provisions

of national policy. Above the FME is National Council of Education, the highest policy making body that coordinates the national policy. The council is headed by the Federal Minister of Education and includes all the State Commissioners of Education. This body is advised by the Joint Consultative Committee on Education, which consists of all the Federal and State Directors of Education, Chief Executives of education statutory bodies, and Directors of University Institutes of Education.^[31] Administration of educational institutions is shared across Federal, State, local government, communities and private organizations. The FME has agencies through which it strives to achieve its constitutional responsibility of promoting and regulating higher education in Nigeria. These agencies are shown in figure 3. They include: the NUC, NBTE, NCCE, Joint Admissions and Matriculation Board (JAMB).

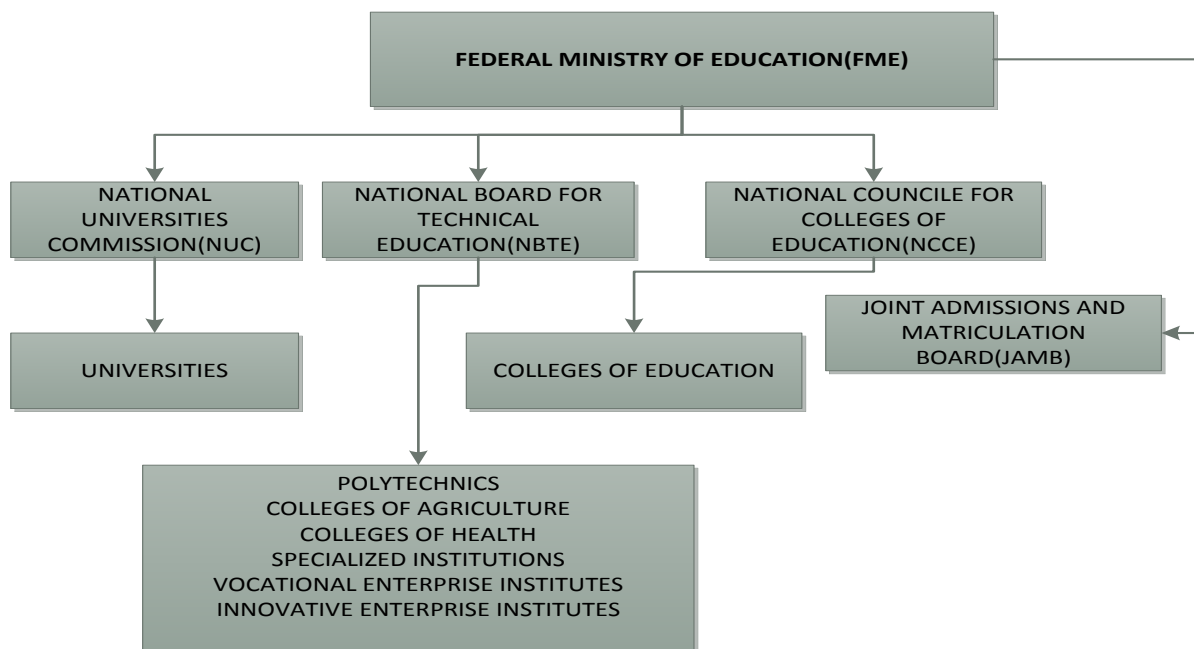


Figure 3: Higher education agencies under the FME.

Purpose of University education

Section 8, Number 58 of the national policy^[32] defines Tertiary Education as “the education given after secondary education in Universities, Colleges of education, Polytechnics, Monotechnics including those institutions offering correspondence courses.

The fundamental objectives and goals of University education could be examined from the provisions of the following documents:

1. Education(National Minimum Standards and Establishment of Institutions) ACT CAP E3 Laws of the Federation of Nigeria 2004.
2. The National Policy on Education, 2004.^[32]

Section 10 of the Education (National Minimum standards and Establishment of Institutions) law clearly states that the purposes of higher education (with respect to Universities) shall be-

- a) The acquisition, development and inculcation of the proper value-orientation for the survival of individuals and society;
- b) The development of the intellectual capacities of individuals to understand and appreciate their environment;
- c) The acquisition of both physical and intellectual skills to enable individuals to develop into useful members of the community;
- d) The acquisition of an objective view of local and external environment;
- e) The making of optimum contributions to national development through the training of higher level manpower;
- f) The promotion of national unity by ensuring that admission of students and recruitment of staff into universities and other institutions of higher learning shall, as far as possible, be on a broad national basis;
- g) The promotion and encouragement of scholarship and research.

In a similar vein the provision of the National Policy on Education 2004[32] under its section 8 number 59 (a-g) stated seven goals of higher education to wit:

- a. Contribute to national development through high level relevant manpower training;
- b. Develop and inculcate proper values for the survival of the individual and society;
- c. Develop the intellectual capability of individuals to understand and appreciate their local and external environments;
- d. Acquire both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society;
- e. Promote and encourage scholarship and community service;
- f. Forge and cement national unity; and,
- g. Promote national and international understanding and interaction.

Section 8 number 64 of the same policy^[32] further provides that “university education shall make optimum contribution to national development by making sure that technically-based professional courses in the universities compose exposure to relevant future working environment while it is believed that “teachers in professional fields have relevant industrial and professional experience”.

However, the policy^[32] in items 64 through 69 stipulated on the objectives and goals of University education though it did give University education a definition other than that applicable to every tertiary institution. Item 64 provides that university education will make optimum contribution to national development by:

- a. Intensifying and diversifying its programmes for the development of high level manpower within the context of the needs of the nation;
- b. Making professional courses contents to reflect our national requirements;
- c. Making all students as part of a general programme of all-round improvement in university education to offer general study course such as history of ideas, philosophy of knowledge and nationalism.

The provision of item 65 of the policy is similar to that of item 64 and states thus: University research shall be relevant to the nation's developmental goals. In this regard, universities shall be encouraged to disseminate their research results to both government and industries.

Realizing Higher education goals

Amadi^[33] had listed the strategies for realizing higher education goals in Nigeria. These strategies are listed below:

- a. Teaching research and development;
- b. Virile staff development;
- c. Generation and dissemination of knowledge.
- d. A variety of modes of programme including full-time, part-time, sandwich etc.
- e. Access to training funds such as those provided by the Industrial Training Fund (ITF);
- f. Student industrial Work Experience scheme (SIWES);
- g. Maintenance of Minimum educational standards through appropriate agencies;
- h. Inter-institutional cooperation, dedicated services to the community through extramural and extension services;
- i. Establish effective monitoring of public and private universities to ensure strict adherence to standards;
- j. Develop innovative approaches to ensure continuous retooling and capacity building of lecturers so that they operate at cutting edge of their discipline;
- k. Increasing move towards a decentralized and competitive wage bargaining system, which promotes a performance-based reward system.

While these strategies are indeed laudable specificity is important i.e. the practical atomic steps that could yield positive results for instance an innovative approach could include the deployment of modern technologies in the provision of learning instead of the traditional classroom approach.

In a similar vein, Okebukola^[34] had insisted to achieve the stipulated goals, there would be the need to review trends in higher education which should focus on programme development; access and equity (enrolment), facilities; teaching; research; community service and financing. Clearly, these constitute the quality benchmarks of a typical higher education system.

VII. DISCUSSION OF ISSUES

This section discussed the issues or questions raised under the section 1.4 of this paper. Four questions were raised and are accordingly discussed in same sequence in which they were formulated.

Whether or not the Nigerian government has laws and policies that promote equitable access to education at the University level?

Tajudeen^[8] has rightly noted that whereas the objectives and goals of the national policy on education are lofty and laudable, their realization through effective implementation had been a major hindrance. He regarded the problem as that of a foundational problem. The question that arises therefore is: “if the implementation of the policy has been difficult till date, is it not possible to clearly identify those issues preventing the implementation, classify, prioritize, and use the appropriate elimination tactics to resolve those issues?”. In the context of this paper, the issue is whether or not these stated purposes and goals could be actualized at least to a large extent using the online learning platform. It is not surprising to note that the problems of higher education in Nigeria are multi-variate but it is also submitted that the variables are connected with each other to a certain extent. For instance, the issue of lack infrastructure, human capacity, etc. is connected to funding. However, it may be argued that even if the right funding is provided, other challenges like corruption, poor governance, lack of accountability and transparency are likely to make nonsense of the funds provided. Be that as it may, it is a glaring fact that over a decade, government funding to the educational institutions had been sub-optimal leading to infrastructural decays (arising little or no maintenance of existing infrastructure) and much limited human capacity. The result is a situation where Universities are conditionally restricted to admit a fraction of students into its

programs leaving out the majority of the number seeking admission. Having regard to these challenges and the advances in technology wherein a lot of services could be handled by technologies without the intervention of human experts, it is very much possible to admit many students into such programs with the limited human resources but exploiting the provisions of Information technology. It does not follow that the necessary Information Technology apparatuses to drive the system is free but may be much more cost-effective if planned earlier considering the falling cost of internet bandwidth and hardware.

From the foregoing, it is clear that Nigeria has laws and policies that promote access to University education. It may therefore be submitted that the problem regarding access is not necessarily the existence of legislative frameworks and policies but the implementation of the contents of those documents.

Whether or not online learning systems can satisfy the objectives and goals of higher education in Nigeria?

This question may lead to another question which goes thus: “Has the traditional learning systems been able to satisfy the demands of higher education in Nigeria? If the answer is in the negative then it goes to the point that the quest for an online learning system is not necessarily to replace the existing system but to complement it. In other words, if there is no gap (highly limited access to higher education) in the existing system, there wouldn't be any reasonable need to prescribe an alternative or complement. Having made that point, it is pertinent to note that there are basic requirements to actualize the implementation of a policy whether or not he said implementation is technology-driven. Universities are regulated by an agency of the federal government; the National Universities commission (NUC) which performs both institutional and programme accreditation respectively at the Universities. The Law establishing the NUC mandates it to regulate the Universities in respects of its programs, facilities, human resources, and governance. Bamiro^[35] submitted that institutional accreditation, which seeks to capture the operational environment for the conduct of the basic functions of teaching, learning, research and community service, is based on the minimum standards set for the following criteria:

- a. Institutional vision, mission and strategic goals;
- b. Institutional governance and administration;
- c. Institutional resources;
- d. Quality of teaching, learning and research;

- e. Institutional efficiency and effectiveness;
- f. Extension services and consultancies;
- g. Transparency, financial management and stability
- h. Financial management and stability.

Thus for the Universities, it is the responsibility of the NUC to determine what minimum resources should enable a University achieve a performance that would meet the objectives and goals of University education as prescribed in the policy documents. It is instructive to note that NUC has not been found wanting in this regard considering its commitment to regulate programs in the Universities through its quality assurance visits otherwise termed accreditation exercise. It is common knowledge that NUC's accreditation exercise is based on the basic minimum academic standard (BMAS). The BMAS is the basis for accrediting programs in the national university system (NUS). The result of programme-based accreditation exercise is in terms of a programme being found to be worthy of "full accreditation" or "Interim Accreditation" or the worst case, "Denied Accreditation".^[35]

Considering the eight items above that form the bedrock of NUC's institutional accreditation, it may be submitted that items[c,d,e] are vital to the deployment of an effective and efficient online learning system in a University. In an ideal online learning platform, Institutional resources would ultimately include technology infrastructure such as medium to high capacity hardware, online classroom software, online course delivery software, repositories of digital study resources(e-books, articles, conference papers, practice demonstrations, audio-visual materials e.g. lectures, tutorials, hands-on-practice packs, etc.), High speed internet connectivity, workstations, etc. Each of the components of an online learning platform is relatively concrete in the sense that it could be evaluated and even measured to know the actual effect it could have during the delivery of online learning. It therefore follows that online learning platform could provide similar quality apparatus as its traditional counterpart since quality in itself is a relative term and depends on what the regulatory agency stipulates as its minimum acceptable benchmark regarding a given program.

Whether or not the number of Universities in the country is adequate to cater for the Nigerian population seeking University education?

Ordinarily this question may be resolved in both affirmative and negative as it could be view from different perspectives. For instance, if there are sufficient resources including funding, good governance, accountability, quality programming, etc., it may be concluded that the

number of institutions would be well positioned to accommodate the teeming population since they can expand whenever demand increases without lowering the quality of training. It is believed that the forgoing may have been part of the reasoning of Tajudeen(8) wherein he had submitted that it is not the number of institutions that matters but the knowledge and skills transferred to the learners. A similar position is maintained by Sharma^[36] wherein he posited that the rapid expansion of higher education grows misalignment with workplace the result being the highly disappointing shortage of graduates with relevant employable skills that meet the challenges of the modern society. The foregoing view is also shared by Fakomogbon and Adegbija^[37] who downplayed the increase in number of tertiary institutions in Nigeria many of which do not offer any training on entrepreneurial skills and innovation the hallmark of wealth creation.

Analytically, it is common knowledge however that Nigerian Universities is faced with poor funding, decaying infrastructure, corruption, governance failure, inadequate number of qualified teaching and technical personnel, etc. and it would be a sheer hypocrisy in aligning with the view that the number of institutions is adequate and fairly distributed to cater for a population of over 180 million people. Agreeably, there are 670 tertiary institutions as documented in Table 1 but the emphasis on this paper is on access to University education which is often the desire of every young person aspiring to acquire tertiary education. Nigeria has 40 federal universities, 46 state-owned universities, and 74 private universities. Considering the income distribution in Nigeria, less than 30% of all income earners can afford training their wards in Private Universities due to the often high fees. The common choice is the federal universities where fees are relatively subsidized whereas the choice of state-owned universities is often a second place among aspiring university students. Consequently, the adequacy of the available universities could be simply evaluated on the basis of annual combined capacity of all the Universities in a given year. Regard may also be had to other climes with comparable population.

It is on record that Nigeria's tertiary institutions can only admit 26 per cent of applicants due to limited vacancies as findings have shown that over 10 million students sought admission into higher institutions of learning in six years (2010 to 2015) but only 2,674,485 were admitted.^[38] It is submitted that about 74 percent of those that failed to secure admission were forced to wait for another year. A scaled down analysis of applicants seeking admission from 2010 to 2015 is shown in figure 4. In 2010, for instance, only 423,531 gained admission out

of the 1.5 million that applied. The number of applicants rose to 1.64 million in 2011 but the number of admissions, however, dropped to 417,341. In 2012, the number of applicants was 1.63 million but those who gained placements were 477,176. The application numbers climbed to 1.92 million in 2013, with only 463,395 succeeding in getting slots. For 2014, the number of applicants dropped to 1.79 million, but only 437,707 were offered admissions. The admission figures, however, rose to 485,338 in 2015 when 1.61 million students applied. Analysis of the data based on the state of origin of applicants revealed that Imo State had the highest number of applicants, followed by Delta state, for the six-year period under review. On the other hand, Sokoto and Zamfara states had the lowest matriculation applications, according to the official data. Gender analysis of the data shows that 17 states in the southern part of the country had a higher female to male applications and admission ratio than the 19 states in the north.

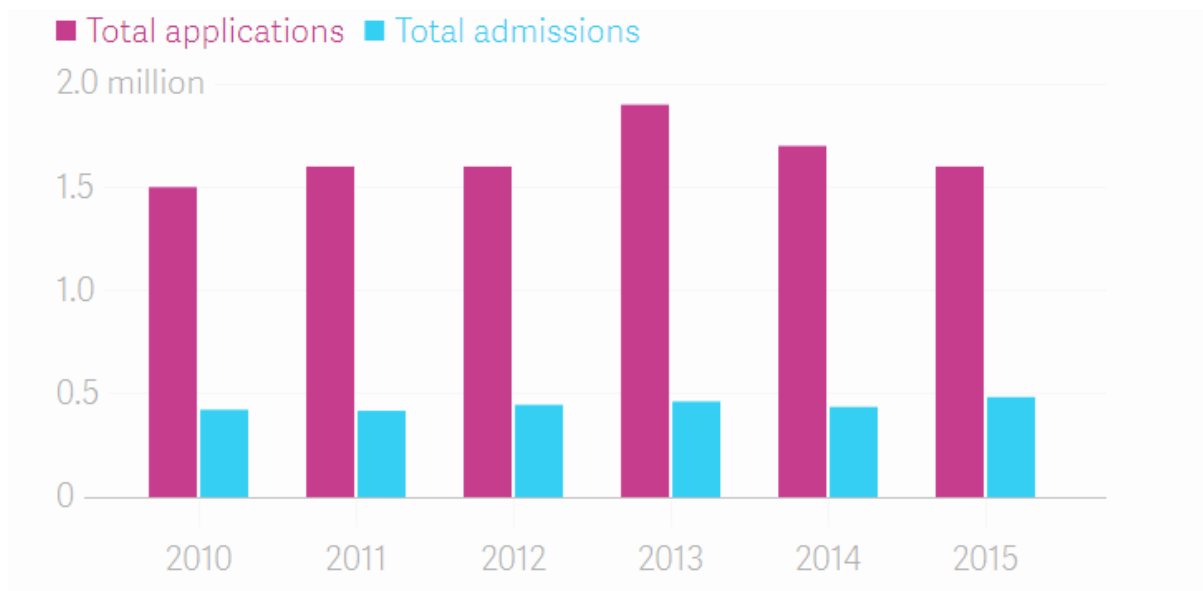


Figure 4: Component bar chart showing applications to admission ratio [source: National Bureau of Statistics, Nigeria].

Comparatively, Nigeria has a population of over 180 million with 670 tertiary institutions whereas the United States of America has a population of 318 million but has over 5000 institutions of higher learning. Having regard to the foregoing facts it may be safely held that the tertiary institutions in Nigeria are not in any way commensurate with the number of persons seeking admission thus re-echoing the inequities in access to tertiary education.

Whether or not online learning system could be rightly run to offer an alternative mode of learning and complement the traditional university system having regard to the technological advancements around the globe and the promotion and acceptance of such mode of learning in developed countries?

From the outset, Universities that embraced online learning started with a blended system involving the use of both the traditional classroom-based learning and the electronic mode. Examples abound in Europe and America. In Nigeria, in addition to the National Open University of Nigeria which runs as a full-fledged open and distance learning(ODL) system (though does not yet offer full online programs), the NUC had approved the following distance learning centres as shown in table 2. From the table, only eight traditional universities have approved open distance learning centres which run a blended system in delivery of their contents to the students. According to NUC, ODL means that students should not be required to attend classes or have face-to-face contact, unless there are compelling reasons to justify it such as Examinations, periodic facilitation and practicum [39]. The NUC has however noted that the quality of such ODL at those universities running dual mode i.e. traditional and distance learning is poor and this may have been the discouraging factor in approving ODL for other universities. However, these deficiencies (lack of infrastructure, resources, and trained personnel) do not defeat the fact that online learning could be effectively run by both traditional universities and pure online universities. It is also submitted that the ODL programs cannot be regarded as online-learning compliant programs as all of these institutions do not have such facilities as online classrooms, etc. In conclusion, having regard to the provision of the national policy and the ODL guidelines in effect as set by NUC, it is submitted that the traditional universities can run dual systems of learning.

Table 2: Traditional Universities with Open distance learning centres.

S/No	Universities	Open Distance Learning centres
1	University of Ibadan, Ibadan	Distance Learning Centre
2	Obafemi Awolowo University, Ile-Ife	Centre for Distance Learning
3	University of Lagos, Akoka	Distance Learning Institute
4	University of Maiduguri, Maiduguri	Centre for Distance Learning
5	Modibbo Adama University of Technology, Yola	Centre for Distance Learning
6	University of Abuja, Abuja	Centre for Distance Learning and Continuing Education
7	Ladoke Akintola University of Technology, Ogbomoso	LAUTECH Distance Learning Centre
8	Ahmadu Bello University Zaria	Distance Learning Centre ABU, Zaria

VIII. CONCLUSION

This paper tried to make a case towards the suitability and deployment of online learning systems to support University education in Nigeria. Against the objectives of this study, four questions were raised which have been resolved accordingly. Having reviewed the relevant legislations and policy documents the following conclusions are made:

- a. There are good legislative frameworks and policies that support unrestricted access to University education in Nigeria
- b. The existing policy on tertiary education has suffered and is still suffering setbacks in its implementation
- c. The problems facing university education are many and include: poor funding, decaying infrastructure, inadequate staffing, corruption, governance failure, weak curricula, etc. and had remained unresolved for decades
- d. Online learning is a viable option though susceptible to existing challenges especially infrastructure which could be resolved if carefully planned.
- e. Online universities are bound to create more access paths to formal university education and have the potential to reduce drastically the great gap between university education applicants and available admission slots
- f. Guidelines and quality assurance policies exist to regulate open and distance learning albeit devoid of special provision for full-fledged online learning university system

Accordingly, the following recommendations are made:

- a. The National Council on Education and the Federal Ministry of Education in consultation with the NUC should meet and evolve an operational framework for the take-off of online universities whose mode of operation would be wholly online.
- b. Standards should be developed to cater for the establishment, promotion and control of online learning and online universities in Nigeria.
- c. Functional ICT centres should be a mandatory component that should be assessed during every institutional and academic programme accreditation by the NUC.
- d. The staff employed in such ICT centres should be those with relevant and certified professional qualifications in addition to the academic qualifications, however, emphasis should be placed on the professional capacity of the staff in such institution.
- e. Casual staffing in such technical centres should be prohibited.
- f. The ICT centres should be the centre of interest prior to granting open and online learning approvals by the NUC.

- g. The ICT centre as the driver of e-learning and research should include: electronic libraries; Software services unit (to support scientific, engineering and allied researches), Network services unit, Seminar/workshop facility, etc.
- h. The NUC should conduct regular visits to the ICT infrastructure in every University from time to time in order to ensure that the state of infrastructure meets the minimum for driving academic programs.
- i. The perceived discrimination by Universities and the public against qualifications obtained through open and online learning Universities duly approved by the NUC should be prohibited. The NUC should champion a media campaign against this anomaly.
- j. Online learning modes should be evaluated and realistic benchmarks set by the NUC to pave way for the growth of online Universities in Nigeria.
- k. Traditional Universities should be encouraged to set up special online learning institutes whose programs and learning outcomes would compete favourably with those offered via the regular classroom learning.
- l. Collaboration between Universities should also be encouraged in such a way that industry-strength programs could be developed and mutually run by the collaborating Universities using ICT infrastructure jointly or severally owned by the collaborating parties.

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