**INFORMATION COMMUNICATION TECHNOLOGY (ICT) AND THE FUTURE OF NIGERIA’S HIGHER EDUCATION: UNIVERSITY ADMINISTRATORS LEADING THE CHANGE.**

**BEING TEXT OF PAPER PRESENTED BY PROF M. O. OLOGUNDE\*, *FNIFST* AT THE TRAINING WORKSHOP ORGANIZED BY THE ASSOCIATION OF NIGERIAN UNIVERSITY PROFESSIONAL ADMINISTRATORS, HELD NATIONAL MERIT AWARD SECRETARIAT (MERIT HOUSE) AUDITORIUM, 22 AGUYI IRONSI STREET, MAITAMA ABUJA, ON AUGUST 1ST, 2018.**

**PROTOCOLS**

I want to begin by expressing my profound gratitude to the National President, Barrister Igwe and members of this association for extending this invitation to me. Barrister mentioned this to me when we met at Ago Iwoye sometimes in February this year. This is a rare honour and privilege that I will long continue to cherish. I must also acknowledge the warm and friendly reception accorded me since my arrival. It is my prayer that your association will continue to wax stronger and stronger so much so that in no distant a future it will be granted the status of a full-fledged Institute that will contribute to the development of quality manpower not only for the universities and other higher educational institutions but also contribute its quota to the development of critical mass of manpower needed to move this nation forward. This will definitely happen in our lifetime of service, amen.

**Introduction**

A distinctive feature of human beings is their ability to acquire knowledge, and what makes this knowledge an ever-thriving requirement is man ’s ability both to acquire and then to pass on this knowledge to others. Transfer of knowledge, which is one of the foundations of learning, is among the most fundamental social achievements of human beings (Sarkar, 2012). Information Communication Technology (ICT) can contribute not only to local but universal access to education, equity in education, the delivery of quality learning and teaching, teachers’ professional development and more efficient education management, governance and administration (UNESCO, 2015). ICT has tremendously broadened the opportunities for people to acquire information, interact, network, address issues of common concern, generate income and participate in society.

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Let me make some clarification for the purposes of clearer understanding of the subject of this paper. **Science:** According to University of California website is both a body of knowledge and a process. (University of Califonia, 2013). The Merriam-Webster dictionary defines **technology** as both "the practical application of knowledge especially in a particular area" and "a capability given by the practical application of knowledge". This implies that it is a far-reaching term that may include simple tools, such as a crowbar or wooden spoon, or more complex machines, such as a space station or particle accelerator. Tools and machines can be material or virtual technology, such as computer software and business methods. (Meriam-Webster, 2015). **Information Communication Technology (ICT)** for the purposes of this paper refers to the computer and internet connections used to handle and communicate information for learning purpose (Mikre, 2011).

The word science and technology is often used together to denote the intricate relationship between the two. However for the sake of this paper science and technology which is often used interchangeably is used interchangeably with Information Communication Technology (ICT) for the sake of narrowing down the scope. **Education:** Dictionary.com defines education as “The act or process of imparting or acquiring general knowledge, developing the powers of reasoning and judgment, and generally of preparing oneself or others intellectually for mature life. "True education means more than the pursuance of a certain course of study. It means more than a preparation for the life that now is. It has to do with the whole being and with the whole period of existence possible to man. It is the harmonious development of the physical, the mental, and the spiritual powers. It prepares the student for the joy of service in this world and for the higher joy of wider service in the world to come."— (Ellen G. White, Education, p. 13.). **Higher Education:** Dictionary.com further defines Higher Education as “Education beyond high school, specifically, that provided by colleges, graduate schools, and professional schools”

Globally, universities are considered as the power house of a country; the catalyst for positive changes, monumental growth and development of a society and nation; and the centers of articulate opinion and occasionally of political and economic movements.Daxner (2006) captured this concept succinctly “If there is a place where societies can restart to think themselves, it is in the universities. Many of those who are now on the progressive side, which means on the European side of transition, have been active in student movements, in academic resistance against authoritarian rule, and learnt their future roles within the protective walls of academic freedom”. All the Nigerian Higher Educational Institutions (NHEI) share similar vision and mission geared towards generation, dissemination, advancement and application of knowledge in the service of the society at various levels.

The higher institution’s place as a paramount player in a global system is increasingly driven by knowledge, information and ideas. Presently, knowledge is more vital to our societies and economies, in a world of rapidly circulating capital and people and of revolutionary communication technologies. Knowledge is replacing other resources as the main driver of economic growth, and education has increasingly become the foundation for individual prosperity and social mobility. In the United States, a recent survey found that the proportion of individuals who believe higher education to be "absolutely necessary" for success increased from 31% in 2000 to 55% in 2009. The percentage is still growing. Higher education generates broader economic growth as well as individual success. A study identified that universities contributed nearly 60 billion pounds to the economy of the United Kingdom in 2007-08. In Nigeria, a significant percentage of foreign exchange (about 22 billion dollars, CBN, 2018) inflow is home remittances mostly contributed by our expatriate nationals who in most cases are Nigerians with higher education. In a digital age, ideas and aspirations respect few boundaries. The new knowledge economy is necessarily global, and the reach of higher education institutions must be so as well.

With the importance and relevance of the university system in the society, national growth and development, defined with examples, the need to reposition the Nigeria universities to deliver these rewards and prospects are important in making the nation relevant in the committee of nations.

The achievement of this laudable goal requires a conducive environment, sustained ethics and principles to promote quality training and research. To this end, several manpower are deployed at various levels of the higher educational system to ensure concerted efforts in pursuing and delivering on the several targets and milestones envisioned by each Institution’s proprietor. One of the key actors in any higher educational system is the administrator. These sets of professionals are the engine room and the custodian of the enviable culture, vision and mission that characterize the higher educational system. They are the critical mass of manpower essential for every academic system to be able to deliver on its mandate and achieve both its short and long-term goals.

**Who then is an Administrator?**

An administrator is one who (a) directs the activities of other persons and (b) undertakes the responsibility for achieving certain objectives through these efforts (Katz, 2009). In the University System, administrators provide direction and day-to-day management and oversee educational programs and units. In the 21st century, the roles of administrators have become even more complex and integrated with the vision and mission of the University system. These roles have moved beyond the traditional responsibilities of spearheading curriculum choices, financial aid, recruitment, admissions, scholarship and student affairs to active engagement in capacity building, research and community services which were hitherto the core domains of the academic personnel. In this information age, the advent of the Information Communication Technology (ICT) has rebranded the roles and responsibilities of the administrators in the University system, thus ICT is not only an output of the University system but also a key input in every system of the university life for efficient and effective delivery. Thus, any university system where investment in ICT is not considered important is still operating in the 19th century. Likewise, any administrator who fails to keep pace with ICT trend and deploy same in day to day activities is not fit for the 21st century educational system.

**Information Communication Technology in Higher Education.**

Science and technology influences are pervasive and play a decisive role in man’s quest for more food, better education, health care, reliable security, increased industrial output, more efficient and safer transportation and communication. As a composite factor for national development, technology is a complex system comprising of knowledge, skills, experience and organization required to produce, utilize and to control services and the tools or techniques. It is intrinsically a resource and can also be a creator of resources. Information Communication Technology is a major outgrow of this intellectual advancement in knowledge.

 Assuming that at least some universities remain relevant and remain an important means of educating the masses, how will today’s universities respond to the challenges and lead the change to become 22nd century universities? What are the possibilities and prospects of Nigerian institutions of higher education in creating and sustaining the world in which we will live in the 22nd century? What initiatives will individual institutions take to put them on the leading edge of the 22nd century’s academic and business worlds? How will they educate students for critical roles in a world with increasingly porous borders? What impact will their research have on critical challenges facing the world? How will they respond to dramatic demographic shifts in population and complex ways students acquire and process information? How will higher education respond to decreasing levels of public support and increasing demands for its services? Will institutions of higher education remain relevant in an environment in which information is so freely available and easily transmitted?

 One thing that could be going through some minds right now would be why bother about 100 years away when we are struggling to overcome today’s challenges. The trouble is that even if we refuse to think about tomorrow, tomorrow will come. Time is a moving train that waits for no passengers. You either get on board or you are left behind. So we need to think about tomorrow today, to survive tomorrow and to make sure that we prepare a suitable world for future generations. Despite that, we have to overcome today to get strong for tomorrow.

My discussion here today is just an attempt to suggest ways in which ICT can assist in preparing us to overcome some identifiable problems that can militate against the future of higher education. In the section of this discussion I will present some futurists predictions of the 22nd century so that we can identify probable challenges and start strategizing to overcome them using ICT.

UNESCO (2016) reports that by the 2030s, higher education would evolve from traditional societies to ICT-driven knowledge society and knowledge-based society. Also, notable changes would occur in the sector especially in the areas of mission and functions of higher educational institutions, modes of teaching and learning, pedagogical approaches, student-teacher relationships and the role of teachers.

Information and Communication Technology (ICT) refers to the set of activities which facilitate by electronic means the processing, transmission and display of information” (Rodriguez and Wilson, 2000). It is a tool to support the education sector, promote knowledge dissemination, effective learning and promote efficient education services and administration. Evidence have shown it has the potential to enhance decision making and problem-solving processes including gathering and identifying information, classifying and organizing, summarizing and synthesizing, analyzing and evaluating, speculating and predicting (Sukanta, 2012).

ICT promotes a win-win situation for all the stakeholders in the education sector. The students, the employers, the government and the employees benefit where ICT is optimally deployed and a conducive atmosphere for the thriving of the sector is ensured. ICT powers access to information, enables new forms of communication, and serves many on-line services in the spheres of commerce, culture, entertainment and education (Sukanata, 2012 Yusuf *et al.,* 2013). The use of Internet as one of the components of ICT has revolutionized access to information for the business world, libraries, education and individuals. A few of the most popular include E-mail (electronic mail), World Wide Web, FTP (File Transfer Protocol), Usenet, and Telnet. The Internet and its technology continue to have a profound effect in promoting the sharing of information, making possible rapid transactions among businesses, and supporting global collaboration among individuals and organizations. UNESCO (2002) identified three stakeholders in the educational system and postulated the benefits of ICT in education for these stakeholders.

For the students, ICT promotes access to information which can enhance learning and skills development. In addition, ICT encourages the flexibility of content delivery and thereby ensures students learn at their own pace and also ensures that learning process is learner-centered. This equally opens the education opportunity to everyone irrespective of work status and as such students can combine learning with career. ICT interestingly makes learning a truly lifelong activity- an activity in which the pace of technological change forces constant evaluation of the learning process itself (Ogunsola and Aboyade, 2005). Yusuf *et al.* (2013) identified that ICT deployment in Nigerian institutions has extended the scope of educational activities and open the gateway to improved learning to individuals who cannot afford regular programmes. This is particularly interesting for the administrators as the deployment of such approach creates an enabling environment for self-development and further education for the administrators. As a stakeholder in the University system, I can readily notice that this is already playing out when several administrators are turning out with PhD degree and a good number of the registrars in our tertiary institutions are PhD holders. The ultimate benefits of the deployment of ICT in education for students are the imminent improvement in the quality of education and innovation approaches in interaction.

In Nigeria where demand for education far outstrips the available space, the deployment of ICT is very important. This is true because at the long run, it costs less, requires fewer manpower, time-efficient, and defy distance barriers (McGorry, 2002). Mooij (2007) states that differentiated ICT based education can be expected to provide greater reliability, validity, and efficiency of data collection and greater ease of analysis, evaluation, and interpretation at any educational level.

The employers benefit from deployment of ICT by improved employees’ skills which has the potential to enhance productivity. Likewise, the deployment of ICT promotes the development of a new learning culture.

Several authors have documented the benefits of the deployment of ICT to the major beneficiaries of the educational system. These are now discussed.

Firstly, ICT enhances **competency and performance-based curricula** by emerging instructional technologies (Stephenson, 2001; Oliver, 2000). By so doing, there is increased access to a variety of information sources; improved access to a variety of information forms and types; student-centered learning settings based on information access and inquiry; learning environments centered on problem-centered and inquiry-based activities; authentic settings and examples; and teachers as coaches and mentors rather than content experts.

Secondly, ICT promotes **information literacy by** dominating much of contemporary life and work. This involves the capacity to identify an issue and then to identify, locate and evaluate relevant information in order to engage with it or to solve a problem arising from it (McCausland, Wache & Berk, 1999). The growing use of ICTs as tools of everyday life have seen the pool of generic skills expanded in recent years to include information literacy and it is highly probable that future developments and technology applications will see this set of skills growing even more.

Thirdly, the deployment of ICT makes **learning student-centered and learner-friendly**. There is a movement from content-centered curricula to competency-based curricula. Through technology-facilitated approaches, contemporary learning settings encourage students to take responsibility for their own learning. ICT has the capacity to promote and encourage the transformation of education from a trans missive mode which is lecturer directed to one which supports more student-centered models. This also encourages adoption of problem-based learning. In addition, the deployment of ICT also **supports knowledge construction,** thereby adapting the constructivist principles (Duffy & Cunningham, 1996). The emergence of ICTs as learning technologies has coincided with a growing awareness and recognition of alternative theories for learning. Also, on this note, the use of ICT promotes any place learning **(**flexibility in the delivery place of educational programs) and any time learning (Moore & Kersley, 1996).

To the administrators who are going to lead the change, it may sound obscure where do I fit in all these, it is necessary to make it clear that you are a stakeholder in building the society, the future workforce and the leaders of tomorrow and essentially, the administrators are the gateway or the live wire of any institution. To this end, there is a need to support the drive and be fit for the emerging learning environment. The deployment of ICT also involves the key administrative duties. Gradually in some of our higher institutions in Nigeria, paper-based course form is giving way to e-based format, payment is almost entirely online, result notification and feedback to parents are possible online, also processing of transcript, certificates, hall allocation and associated procedures, mobilization of students for youth service, clearance, book lending and loaning, and many other duties are initiated and for some entirely processed online. These emerging trends is giving a lead to where 22nd century higher education administrative duties are tending and every administrator must be carried along and prepared for the future duties. Even in the present 21st century, ICT and ICT related skills are essential to remain relevant and ensure efficient service delivery.

UNESCO (2016) identified the ICT as major driver of critical thinking, entrepreneurship, creativity and other problem-solving skills in the future higher educational system. The reports further identified the essential 21st century skills to include collaboration and teamwork, creativity, imagination, critical thinking, problem solving, flexibility and adaptability, global and cultural awareness, information literacy, leadership, civic literacy and citizenship, oral and written communication skills, social responsibility and ethics, technology literacy, initiative, curiosity and inquisitiveness, financial literacy, health and wellness, media literacy, productivity, accountability, entrepreneurialism, information analysis, basic literacy, contextual learning, environmental literacy, interpersonal skills, metacognition, and visualization skills. For every administrator, these skills are equally essential to be the leading edge in the ICT-driven higher learning of the future.

**Benefits of ICT in Education**

* Increased access
* Flexibility of content delivery
* Combination of work and education
* Learner-centered approach
* Higher quality of education and new ways of interaction
* Upgrading of employee skills, increased productivity
* Developing of a new learning culture
* Sharing of costs and training time with the employees
* Increased portability of training
* Increase the capacity and cost effectiveness of education and training systems
* To reach target groups with limited access to conventional education and training
* To support and enhance the quality and relevance of existing educational structures
* To ensure the connection of educational institutions and curricula to the emerging networks and information resources
* To promote innovation and opportunities for lifelong learning

Adapted from UNESCO (2002). ICT in Teacher Education – A Planning Guide, UNESCO 2002

**Identifiable Challenges Confronting Higher education in Today’s Nigeria**

While attempting to predict and understand the future it is important to know where we are and where we are coming from. Today’s Nigeria University was once described as a shadow of its past. Although this is an arguable assertion, it is real that Nigerian universities have a number of challenges to overcome to achieve its full potential and survive the 21st century. The identifiable challenges could be categorized as Academic, Administrative, Financial and Ethical; and they would be so discussed.

**Academic Challenges**

My approach to addressing these current challenges and suggesting overcoming them would be in rhetoric. How appropriate is today’s curriculum for a 21st century university and how futuristic is their validity? What about the quality of Academic and support staff. Are they in currency and in future? Do we have the calling or we are here because it is the last bus stop? Is the learning environment of 21st century? Are the aesthetics and the buildings as iconic as they were in the early days of universities? Is the physical and virtual infrastructure appropriate? Are we adding value to the society through our content, research and innovations? Are our students of the quality required? How do we improve the quality? Are we addressing the expectations and aspirations of students? Are we producing value adding functional employable graduates or meal ticket seekers? How much of a local university can we be and how relevant is a local university, even in today’s world? How do we become global universities?

**Administrative Challenges**

Do we have good Governance? Is the level of control by third parties appropriate? Is our Administrative Policy, the Registry and other support arrangement 21st century appropriate and 22nd century ready? Is the condition of service and remuneration appropriate? Is the Federal Government oversight arrangement appropriate? Is there adequate autonomy to insure that decisions are made according to policy, rather than special interests? Is JAMB, NUC design and mandates appropriate? Are we adequately fulfilled by administrative role and interventions by other organs of university governance, including the legislative, TETFUND, PTDF etc.? Do we need more administrative freedom to determine conditions of service and school fees? Is politicization of education a good omen for present and future? How do we appoint our Principal Officers? Is there adequate autonomy to insure that decisions are made according to policy, rather than special interests? Should the form and functions of Principal Officers not be reformed as 21st / 22nd Century Officers?

**Financial Challenges**

Do we require financial autonomy? Can we survive financial autonomy? How do we cope with financial freedom? What do we do to be self – sufficient? How do we determine appropriate school fees? Is the university system business model appropriate? How do we obviate Low Paying Fee students? What funding model will cope with present and future? How do we fund university development?

**Ethical Challenges**

Is our conduct ethical? Do our conducts portray the ivory tower status? Are we putting our students first? What about our dressing and carriage? What about our public conduct/arrogance or humility? Are we above the vices of the society-corruption, sexual abuse, cultism, crime? Is our individual ambition and thirst for high office standing in the way of a progressive university system? Are we courageous to speak the truth? Are we going to be the conscience of the nation? How much of role model are we?

These questions and more must be adequately, timeously and correctly addressed if we must survive the present and conquer the future.

**Constraints to effective utilization of ICT in Nigeria’s Universities**

As many opportunities as ICT offers to the education system, its deployment in developing countries like Nigeria remain limited. Several constraints are responsible for these limitations.

1. Poor funding
	1. High start up
	2. Reliance of pirated software
	3. Poor internet
2. Lack of training in the use of ICT facilities
3. Poor motivation of the personnel
4. Poor power supply.
5. Increasing moral decadence in the society and the fear that introducing ICT may heighten the situation.
6. Lack of clear policy on the funding and implementation of ICT innovation.

Despite these constraints, ICT remains a major driver of university education in the future as the advantages far outweighs the challenges and in many cases these challenges can be mitigated through commitment to better life and progressive development.

 **Higher Education from the 21st to the 22nd Century**

The higher education sector is undergoing transformation in its role in society, mode of operation, and economic structure and value. Evidence from Australia shows that at the minimum, incumbent higher educational institutions will need to significantly streamline their operations and asset base, at the same time as incorporating new teaching and learning delivery mechanisms, a diffusion of channels to market, and stakeholder expectations for increased impact. Also, the higher educational institutions of the future will necessarily need to create new products and markets; merge parts of the education sector with other sectors, such as media, technology, innovation, and venture capital. Many drivers of change will speed up the trend at which higher educational institutions key into this future and five of these major drivers are:

1. **Democratization of Knowledge and Access**: ICT is leading to a massive increase in the availability of knowledge online and the mass expansion of access to higher education in developed and developing markets. This scenario may bring a fundamental change in the role of higher educational institutions as originators and keepers of knowledge.
2. **Contestability of Markets and Funding**: Limited funding has been part of the Nigerian educational system from inception and this is not likely to be reversed very soon. Many higher institutions are presently grounded functionally following paucity of fund. Strike action by workers over inability of proprietor to pay salary is also very common. Also, competition for students is reaching new levels of intensity. Private Universities are increasingly gaining parents confidence and this scenario will lead to increased competition for students and government fund in the future.
3. **Digital Technologies:** Digital technologies have transformed media, retail, entertainment and many other industries – higher education is next. Campuses will remain, but digital technologies will transform the way education is delivered and accessed, and the way ‘value’ is created by higher education providers, public and private alike.
4. **Global Mobility:** Global mobility will grow for students, academics, and university brands. This will not only intensify competition, but also create opportunities for deeper global partnerships and broader access to student and academic talent.
5. **Integration with Industry:** Higher institutions will need to strengthen the gown-town relation by building deeper relationships with industry in the decade ahead, differentiate teaching and learning programs, support the funding and application of research, and reinforce the role of higher institutions as drivers of innovation and growth.

These scenarios indicate the environment where the administrators will be operating very soon and this demands that the administrators too are adequately equipped to function efficiently in this environment.

Scenario 1

Only a small fraction of prospective higher institution applicants in many developing countries secure admission, this means that multitude of potential and willing students are shut out of higher institution training on a yearly basis. The conventional mode of learning limits the number of intakes because of the limited infrastructures, manpower and funding. One of the questions to every stakeholder in Nigeria education sector should be “What is the Way forward?”

Scenario 2

The JET age learner possesses unique characteristics that distinguish them from the earlier learners, training this age is technological driven with heavy deployment of information and communication technology. The conventional classroom of desks, notebooks, pencils, and blackboard is fast giving way to the emergence of an online forum of computers, software, and the Internet intermediates that make learning student centered. The deployment of ICT also encourages global sourcing of teaching facilitators and instructors. E-learning is fast becoming a major form of learning. ICT powers our access to information, enables new forms of communication, and serves many on-line services in the spheres of commerce, culture, entertainment and education.

In his recent lecture titled “Schools for the 22nd Century – Reframing education for global collaboration and innovation”, Professor John Fischetti, The University of Newcastle’s head of school education, argued that many schools have become testing centers rather than learning centers, and school buildings function only as places where young people watch adults work. Rather, the purpose of schools should be to prepare learners to be successful in the age of global collaboration and innovation.

**Urgency for Reform.**

From the forgoing there are compelling reasons to feel that we are already seeing the very infantile stages of what the future holds for education. In truth, we can no more imagine 22nd century life than depression-era folks could imagine the age of the iPod. But without looking forward, we get stuck in the present. And unfortunately, in education at least, the present is already past. If innovation lags any more in education, the world will see the 22nd century before education fully implements the best of 21st century thinking.

This feeling is a reason for concern and need to cause reform of the University system in Nigeria. Notable concerns include:

• Internalization of Studentship

Students of today and tomorrow, do and will compete internationally, not only within a school district, within a state or within a county,

• Privatization of Public Space

Privatization of the educational system is occurring and is led by profit and greed, not common good.

• Democratization of Choice

Choice doesn’t necessarily make things good. Something quick and easy may not be good.

• Competency/Certification

We have created testing centers, not learning centers.

• Misuse of Value Added Measures

Value added measures can offer indicators of performance and can be used to project what the growth of students might be, based on prior tests, but they are a very imperfect measure of teacher quality.

• Popularization of Internet and Social Network

The power and use of the internet can be good or bad. A lot of it can be used for educational purposes. For example the Social Networking Sites which have the following population of subscribers: Facebook: 100M, YouTube: 800M, Twitter: 500M, Google: 340M are powerful underutilized resources. The question is: How much have we tapped into these media to take advantage of educational opportunities using these sites? The power of these sites has changed the way things are done in the world, not always for the better. For example, now some of the biggest and most important breaking news stories can be found on Twitter and/or other sites, before they are seen on the more traditional news sources (Twitter helped solve the Boston Marathon bombing). Is education changing to take advantage of this tremendous resource?

Smartphone ownership has really changed everything. By the end of 2013, there were more mobile devices than there were people on Earth. Evidence of the tremendous growth of the smartphone market can be found in the following statistics. The percentage of telephone owners with smartphones in May 2011 was 35%, in Feb. 2012, 46% and in May 2013, 56%. The educational community has not really decided where we are going with this phenomenon, having a handheld device means having a computer in our hand in the space that used to fill a classroom and we really must take advantage of it because now learning can be in any place, anytime. Other concerns are:

1. **Possibility of Change of Global Language**

The top 5 languages on the internet are currently English, Chinese, Spanish, Japanese and Portuguese, but Chinese was expected to overtake English in 2105. This has broad implications. Perhaps more people should be studying Chinese, to take advantage of the associated opportunities. The top 10 Languages on the internet are used by 82.2% of internet users. Chrome has 31.1% of the market, Explorer 29.8%, Firefox 21.38% and the others share the balance. The top uses of the internet are: Searching for information about Health (62.2%), Shopping (58%), Banking (50.1%), looking for Jobs (45.5%), Making Travel Reservations (43%), Research (37.11%), Meeting People (15.2%).

1. **Increasing Demand for 22nd Century Education**

Schooling around the world has been besieged by demands to prepare learners for the needs of the 21st century. Now that it is 2018, Freschetti and his followers believe that we should be preparing students for the 22nd century. And that we reframe schooling around an equity agenda. Freschetti has this to say: “We are preparing the world for the great grandchildren of our children or the grandchildren of children in primary school today.” For our great grandchildren to have the fantastic life in the future will require that our kids in primary school today, have one. We need to be getting ready for the next 100 years, not the last 100.

We have progressed from the blackboard in 1914, to the green board, to the white board to the smartboard, today. But with a few wonderful exceptions in technology schools, teaching is very much the same as it was in 1914, students watching their teachers work. Not as much has changed in the last 100 years, as we would like to think. However, we are going to have to change it in the next 100 or we really won’t need education because the technology is out there. With the possibilities out there, teachers could actually become obsolete, if teaching does not change.

The same is true for higher institutions. A student does not need to drive to a carpark to listen to a teacher talk, when one can watch a lecture online anywhere in the worlds or get someone else to do so. Unless it is inspiring, unless we create an atmosphere of really getting involved, unless we are doing it for a purpose which seems for the common good, rather than for getting a mark, we will have missed the mark.

1. **Cloudication**

One vison of higher education in the 22nd century is through the concept of cloudication. Computers are largely light-based and portable, so they can be used in any situation, in any size. A small projecting device will be added to glasses, wristbands, or embedded in the skin. Students are still monitored by a central agency, but control education themselves. For instance, they can log hours at a veterinary clinic, do virtual human dissection, or create hybrid grapes for a biology credit. Experiences are logged into a cloud-based database, and audited by educators who help students evaluate the quality of their learning. It is assumed that all basic factual data is accessible in multiple ways, so direct instruction is no longer done in any fashion. If a student is learning architecture and needs to understand more about friction coefficients, the student simply finds the relevant information and learns it. Universities have all moved onto the campuses of businesses and corporations, allowing experts to create on-the-career instruction as people work. Virtual reality is used in myriad of situations to evaluate a person’s health, physical ability, and problem-solving abilities. These environments train people on skill jobs, and allow for the safe and effective manipulation of dangerous substances.

**A Model for 22nd Century Higher Education**

There is a natural tug-of-war between two different goals of a college degree – to be well educated or to be employable. Higher education must inspire the ideals of a liberal education and also provide practical skills for aspirational and meaningful employment. In some respects, there is the classic “education” vs. “training” debate. A liberal education without the requisite skills for meaningful employment is a lost opportunity for personal growth and professional development. Graduating with specialized skill sets that make students immediately employable, but lacking in higher order skills such as critical thinking, sociocultural awareness and an appreciation of values and ethics locks as into entry-level jobs rather than enabling careers or callings.

Educators need to encourage students to acquire knowledge and skills from their undergraduate experience. We have little difficulty emphasizing the knowledge that our respective majors should possess; it is now time to bring the acquisition of skills and competencies into the spotlight as an additional aspirational goal and not a replacement goal.

Knowledge provides the foundational infrastructure for tasks that we perform throughout our lives. Knowledge acquisition need not be the singular focus of a college education, and the mere accumulation of knowledge without the ability to apply that knowledge limits the benefits to the individual and to society’s substantial investment. The acquisition of skills should not be lucky happenstance; in the 22nd century model of higher education, skills-based competencies should be the central focus of higher education. ***Knowledge provides the fuel that powers the skills-based engine, and without fuel we get nowhere. However, fuel without the proper vehicle would be a waste of an opportunity.***

With the help of cross-disciplinary research in the “scholarship of teaching and learning,” we need an enhanced emphasis on pedagogical practices to help students acquire skills. We need to devote expertise and resources to develop multiple measures of skill competency to assess and document both student achievement and institutional performance. Furthermore, institutions need to value these efforts and acknowledge such advances within promotion and tenure dossiers, as well as develop grant programs to help faculty devote research time to developing skills measures. Grant dollars and course releases often signal important aspects of our academic culture, and thus if skills assessment is ever to be taken seriously by faculty, institutions must value assessment expertise as they value teaching and research.

The status quo continues to be a knowledge-centered approach. But knowledge is fleeting, and data about what college students retain after the course is lacking points to little or no retention at all. Anecdotally, students will often struggle to remember what classes they took in previous semesters, let alone what they learned.

**Student-Centered, Skills-Centered Competency Model**

The primary goal of higher education should be to assist students to acquire knowledge and develop skills. Knowledge acquisition for the sake of knowledge acquisition, absent application, is akin to hoarding. The ability to receive a perfect UTME score may be impressive, but we should be more concerned about what that student learns to do with that knowledge. Speaking about the apprentice model used in the middle Ages, “no one fails at bread-baking.” If you were an apprentice bread-baker, you kept working until you got it right. Graduation should occur when the requisite skills are acquired and can be reliably demonstrated. I suggest that for a 22nd century education, we consider a skills-based competency model rather than the current credit hour model. A student’s transcript is now transformed into an assessment of the proficiency levels (those levels being underdeveloped, developing, effective, distinguished) that a student achieves in those areas regarded as valuable by departments, colleges, and universities. Let’s put an end to the phrase “C’s get degrees.”

In our current credit hour model, students accumulate credit hours into buckets, and if their grades are average (or above) and they put enough credits into enough buckets, they graduate. The curricula are often well conceived with high-level goals in mind, but given the current state of assessment and employer feedback, are we meeting our students’ needs, or are we truly adrift? Are we even meeting our own institutional goals? In many ways, we do what we do because we have always wanted it that way-but that operational model is not unique to higher education.

What I propose here is a transformative shift from a credit hour model to a competency-based model. Rather than ensure that students accumulate 120 credits to graduate, under a competency model, a student must demonstrate key skills in the institution’s requisite areas to graduate. Just as some students in the current credit hour model do not graduate (they did not fill all the buckets), neither would every student in a competency model. Not all students can attain all the key skills designated by the institution as central to graduation; not everyone can be a bread baker. Institutions would need to determine the proficiency levels necessary to graduate. Perhaps a national skills-based proficiency exam might provide higher educational institutions baseline data by which to adjust and benchmark an institution’s respective assessment efforts. There are institutions now that are exploring skills-centered approaches in the western world but most of them at the moment are not following this radical and innovative approach.

In the 22nd century competency-centered model, when a student achieves the standard set by the college or university with regards to the general education or core curriculum, the student would receive a diploma degree. When the student achieves the standards for knowledge attainment and skills competency, he or she receives a bachelor’s degree. That might take 120 credits worth of academic work, or 72 credits, 144 credits, or 40 credits. The requirement is the ability to measure skills with multiple psychologically appropriate measures-an ability we do not possess currently for all desired skills. In the 22nd century, a student’s graduation would represent a true capstone involving the meaningful demonstration of skills that the institution values and assessment with vigor.

CREDIT FOR PRIOR EXPERIENCES, PRIOR LEARNING AND TRANSFER STUDENTS

Under a skills/competency model, students’ prior life experiences are particularly relevant. If a student begins college with demonstrable skills, then they are “ahead” (similar to an incoming student having high school Advanced Placement credits). Of course, they need to maintain those skills, and hopefully enhance their skill set. For example, if a marketing executive who gave 100 speeches a year returned to college to become an elementary-school teacher, would we make this returning student take Communication 101? Under a skills/competency model, we do not guess at the answer to that question; if the student achieves the requisite proficiency in an active demonstration of the skill, then they meet the communication requirement for Communication 101. Conversely, if a transfer student has been “core-certified” by another institution, they must still demonstrate the skills required by their new institution. Polytechnics might focus more on skill development and less on credit generation; the same holds true for four-year colleges and universities. The emphasis shifts from knowledge possession to knowledge application via demonstrable skills and abilities. An assessment-based model would help ensure that citizens would get more value for money spent.

We do implement a skills/competency model currently in some areas of higher education. In many cases, we do not give students multiple choice tests about how students would write, but faculties actually get students to write. Generally speaking, a student’s memorized knowledge about writing rules and grammar seems less important than their ability to write. Many high school Advanced Placement tests go beyond multiple choice testing, asking students to consider multiple concepts and be able to form linkages among seemingly disparate concepts-in writing. Consider a trip to FRSC a multiple choice test might be in your future, but also a vision test, and more importantly, you demonstrate that you possess the skills to drive by driving a car. A trained observer determines if you have the requisite skills to complete the task safely and correctly. We already have trained professionals who are experts at measuring human behavior by developing sound instruments and measures-they are called social scientists.

**How closely are these likely to happen?**

Anecdotal evidence suggests this may happen soon. For example, smartphone ownership is increasing with more mobile devices than people on earth as at the end of 2013. Smartphone is increasing rapidly, from 35% in May 2011, to 46% in February 2012 and 56% in May 2013. In Nigeria, there were more than 23.1 million smartphone users as at 2014 and this is projected to increase to 34 million by 2019 (Smartphone users in Nigeria 2014-2019/Statistics, 2017). Just last year, Nigeria was ranked 17th in the profiling of countries that love smartphones by eMarketer (eMarketer, 2017). The educational community has not really decided where we are going with this phenomenon, having a handheld device means having a computer in our hand in the space that used to fill a classroom and we really must take advantage of it because now learning can be in any place, anytime.

**PROSPECTS**

It is essential to state that despite these odds, Nigerian universities have a great prospect to rebound and performances of several private universities in Nigeria have shown that university education can return to its glorious past and better contribute to national development.

Several undeniable innovations have been recorded in both public and private universities in Nigeria and these reflect the ingenuity of the university workforce and students. It is an indication that further push to the Nigerian university system with adequate funding and infrastructural backing can make these universities to compete with counterparts from some other parts of the globe.

The large number of wiling students is a big prospect that should serve as an impetus to turn around the Nigerian University system. A report has shown that Nigerian students in Ghanaian incurred a total of N160 billion expenditure yearly. Nigerian students are spread across several institutions in Europe, Africa, Middle East, America and other parts of the globe. Revamping Nigerian higher education System will reduce capital flights to these countries and reduce the brain drain associated with such moves.

Infrastructural wise, many private universities generate own electricity and this calls for the need for the public universities to do more and look inward to solve power and water challenges in their campuses.

World Class Universities like Harvard, Oxford, and University College London among others have been reported to generate fund more than the government. So our universities should put all these into consideration and see how they can be financially independent.

**Uses of ICT in University Administration**

The use of ICT makes administrative and teaching process more flexible, less time consuming, and less expensive (Ahmed (2009). ICT enhances easy communication and provides solutions to assignments (Awoleye, 2006). The integration of ICT enhances the overall admission activities of higher education institutions by making it more accessible to many and more efficient (Obeng, 2004).

According to OECS (2001), ICT makes the maintenance of students’ and staff records easier and this has been deployed successfully in and for:

 Students admission and records

 Examination results and transcripts (Matovu 2009))

 Finance database

 Human resource database

 Management information

Krishnaveni & Meenakumari (2010) identified three main areas significant to management of higher education institutions to include: student administration, staff administration, and general administration.

Information technology can promote efficient and timely delivery in administrative activities in the universities. With the high volume of data, records and documents processed in various universities, deployment of ICT will hasten the process and gets the job done meticulously (Maki, 2008; Clarke-Okah *et al*. 2009). In addition, the use of ICT encourages better space management, promote timely retrieval of information, reduces both workers and students’ burden, optimize planning, and enhance quality service delivery.

Some of the specific ways in which ICT could help administrative services are highlighted below.

1. Organization of Information
2. Analyzing the Data Quickly and Accurately
3. Increasing Coordination
4. Effective and Quick Decision Making
5. Proper Utilization and Allocation of Resources
6. Access to the Stakeholders
7. Student Performance Improvement
8. Efficient Management of Education and Institution
9. Enhancement of Effective Communication and Knowledge Sharing
10. Enhancement of Planning
11. Improvement of Monitoring
12. Managed Instruction
13. Recruitment and work allotment of staff in the institution
14. Attendance and leave management of staff members, and performance appraisal
15. Scheduling/allocation of examination halls
16. Fee payments
17. Processing and display of results of students
18. Admission enquiry and processing
19. Registration/enrolment of students
20. Course allotment and availability of information like time-table/class
21. Hostel allocation
22. And lots more.

**Nigerian University professional Administrators Leading the Change?**

I have discussed extensively in this paper the various challenges that lie waiting, as members of the august body of Association of Nigerian University professional Administrators, how will you lead the change to reform and prepare Nigerian Universities of today for the 22nd century? How will you be remembered, as a forward-looking innovator and collaborator who fought to make sure that Nigeria Universities deliver the products and services required for the competitiveness and success of Nigerians at home and abroad in the modern world or just another educator contented with the status quo?

 As Professional administrators, to what extent have you fitted into the different predictions we have listed? What if the post of Principal Officers are abolished and replaced with Coordinator and you are put in charge? How do you function? University Governing Council may cease to be no more in the next century and replaced with something else. We have seen predictions that are already happening so this one can also come to pass. Are you prepared to assume some of the administrative roles incidental to academic activities?

 As Professional Administrators, the management of every aspect of the University life belongs to you. Vice Chancellors (academics) will come and leave following the expiration of their tenure, you are the ones who keep records and ensure a successful transition from one administration to another. If you have done this successfully over the years and you have sufficient skills as a business developer who says you cannot sit in the apex office?

 This conversation has undoubtedly established the fact that without progressive education there could be no meaningful development in Nigeria and beyond that, education is also essential in sustaining development. Hence the only option we have is to embrace progressive education. As Professional Administrators you are stakeholders in this dream. I want you to ask yourself what role do you want to play either as corporate entity or as individuals to ensure that Nigerian universities do not journey into the later part of this century and beyond only as slaves to the superior civilizations.

I thank you for listening. God bless.

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