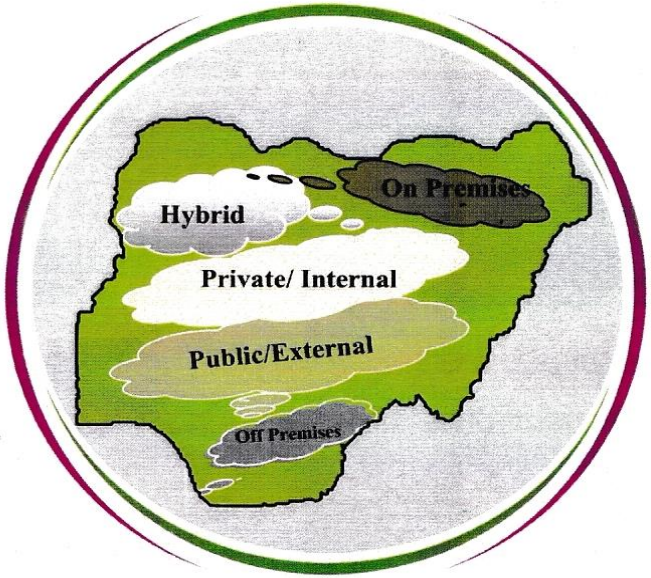
UNIVERSITY OF CALABAR,
CALABAR, NIGERIA

60th INAUGURAL LECTURE



CLOUDS IN THE "LIGHT KINGDOM": REBOOT THE CURRICULUM!

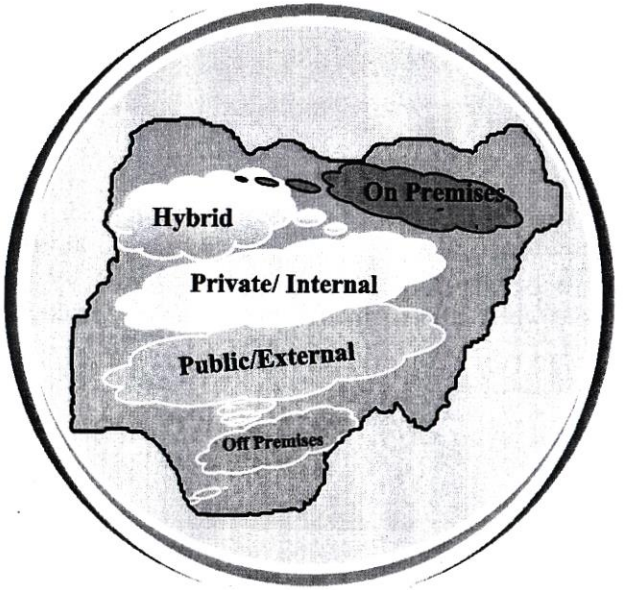
Delivered by:

MOSES E. INYANG-ABIA
(Ph.D; FNAEMT; FIIAN; FNATT)
(Professor of Curriculum Technologies and Environmental Education)
Department of Curriculum and Teaching,
Faculty of Education, University of Calabar, Calabar, Nigeria.

26 November, 2014

UNIVERSITY OF CALABAR,
CALABAR, NIGERIA

60th INAUGURAL LECTURE



CLOUDS IN THE "LIGHT KINGDOM": REBOOT THE CURRICULUM!

Delivered by: **MOSES E. INYANG-ABIA**
(PhD; FNAEMT; FIIAN; FNATT)
(Professor of Curriculum Technologies and Environmental Education)
Department of Curriculum and Teaching,
Faculty of Education, University of Calabar, Calabar, Nigeria

26 November 2014

Published by:
University of Calabar Press
Calabar - Nigeria

ISBN: 978-007-248-9

Political Map of Nigeria showing the States of the Federation

CONTENTS

The Preamble

What can a blessed man do? He whom God has decided to sanctify, one whom God has raised from grass to grace, one whom God has chosen to favour, what can he do, except to thank Him, testify of His goodness, serve Him and encourage others to serve this Almighty God!

For keeping me alive and healthy, giving me a wonderful wife and an excellent family I testify of His Goodness. For the ability and this rare opportunity today, 26 November 2014, to present the **60th Inaugural Lecture,** I thank the Almighty God. To the Management of my ***alma mater***, this great University, the University of Calabar, I say ***may the Almighty God bless and enlarge your coasts*** for giving me this once-in-a-lifetime chance to pay to the academic world, a debt I owed since October 2001 when my Professorial position was actualized, thus taking me to the pinnacle of my profession.

November 5, 2014 marked the 30th anniversary of my appointment as a lecturer in the University of Calabar. This 60th Inaugural Lecture is the sixth from my Constituency, the Faculty of Education and the fourth from my Local Area, the Department of Curriculum and Teaching. It may as well be the first from two of my Autonomous Communities, Educational Technology and the newly approved Department of Environmental Education, the presenter being a major founding factor.

1. Introduction

The decision to lecture on the topic: ***Clouds in the □Light Kingdom□: Reboot the Curriculum!*** was taken for various reasons. It was not just to summarize my entire professional career practices, but more importantly to sharpen the focus and capture the gamut of my researches and experiences in ***the Curriculum sphere, in Educational Technology domain and in Environmental Education arena, all within the innovative portal of the Education business.*** From that vantage platform, feasible action agenda will be packaged for Nigeria□s Digital Natives and Digital Immigrants alike. This results from personal

opinion, proven philosophical underpinnings and judicious scientific extrapolations. Mr. Chairman and my dear Vice-Chancellor, respected ladies and gentlemen, the rest of this presentation focuses on the sub-topics as listed in the Contents.

2. The Cloud

Cloud is an environmental term within meteorology and climatology spheres. It portrays a large visible, unpredictable, irregular, and changeable accumulation of liquid particles, droplets or frozen crystals of suspended water in the atmosphere at a considerable height above sea level. It may also refer to any mobile and visible gathering of objects, particles or gases in the atmosphere. Cloud may also describe an unclear phenomenon or situation.

In recent times however, the term ***Cloud*** has found new expression in computer and acceptance in education through technology. Closely associated with the computer is the term ***Cloud Computing*** from which part of the topic for this lecture derives. To compute means to calculate, assess, work out, process, manage, administer or perform some operations. Any computer program hosted online and maintained by an Internet Service Provider (ISP) is regarded as cloud-based.

Cloud computing describes any Internet-based activity where groups of remote servers are networked to allow centralized data storage and online access to computer resources and services. As an Information Technology (IT) expression, it means processing data over a large network (Internet) with emphasis on ***Software, Platform and Infrastructure*** as services. These terms are crucial expressions in modern pedagogy, andragogy, technology, business, and management.

Computer instruction, data, pictures, music or anything that is stored electronically is termed ***Software.*** On the other hand, the display devices are the ***Hardware.*** The corresponding software and hardware formats are required for both to function productively. ***Software as a Service (SaaS)*** enables the client to use the ISP□s applications in the Cloud infrastructure, from their devices through an interface such as a

modem *(modulator-demodulator)* or a router. The consumers only temporarily rent a space in the ISP□s facility for immediat use; consumers neither manage nor control the cloud. (See figure 1).

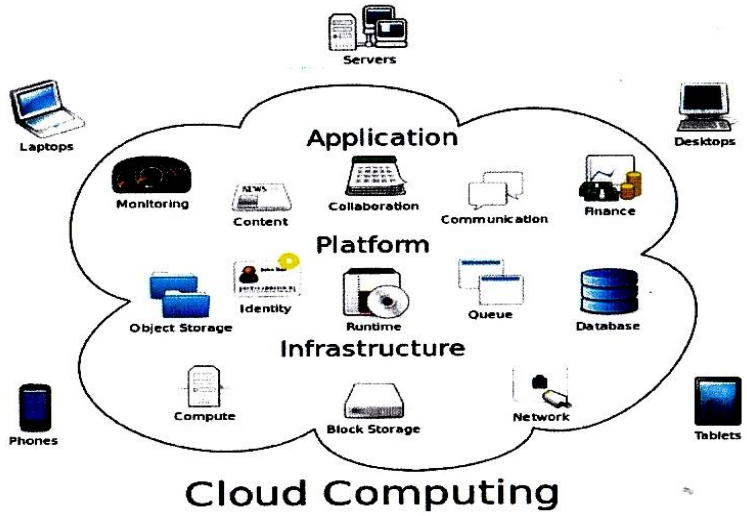


Figure 1: Cloud Computing

Source: http://en.wikipedia.org/wiki/Cloud_computing

A ***Platform*** in the Cloud is any available preset environment designed for software to run. ***Platform as a Service (PaaS)*** makes it possible for the consumer to hook on the cloud infrastructure using appropriate programming languages and tools supported by the ISP. Consumers temporarily rent the operating Platform. They can neither manage nor control the cloud environment. The pool of hardware resources from many servers and networks, usually distributed across numerous data centers is managed by the ISP. These interconnected structural elements support the entire Cloud structural framework.

Infrastructure as a Service (IaaS) outsources the equipment, storage, hardware, servers and networking components used to support operations. The ISP owns, houses, runs and maintains these support services and resources. The consumers' payment on agreed terms empowers them to temporarily rent some fundamental computing assets.

Availability of the ***Services*** in the Cloud makes operations within the Cloud possible, cheap and easy. Operating in the ***Cloud*** essentially means logging on to a program on a website through the Internet. Use of the Cloud reduces cost, is universal, flexible, and elastic and optimizes resource utilization.

In this presentation, the ***Cloud*** refers to the open global instructional portals (Cyber doorway). It is the gateway to universal storehouse of knowledge, instructional data and information. Cloud can be: **Public or External** when it is based on the universal cloud-computing model whereby the ISP makes the cloud resources available to the public over the Internet. Public cloud services may be free, for example the **Google**, cheap for example, the **WhatsApp** or offered on a pay-per-usage model, for example, **Mobile Networks** or the Global System for Mobile Communications (GSM)

Private or **Internal** cloud is privately owned and run. A network or data center that uses cloud computing technologies and managed by the organization it serves, for example the University of Calabar. Cloud is **Hybrid** if it is owned and maintained by both internal and external providers. **On Premises** Cloud (On-Prem.) software is installed and run within the premises or building of the owner of the software, rather than at a remote facility somewhere else. **Off Premises** Cloud is otherwise called **Software as a Service (SaaS)** or computing in the cloud.

Everywhere in the Cloud can be accessed from anywhere on, under or above the surface of the earth provided the right keys and languages are used. As a computational strategy, the Cloud provides scalable and elastic internet-related services to customers through

internet technologies. The Cloud has therefore reduced the world from McLuhan's ***Global Village*** to the ***Global Village Square*** for international Webinars and Skype Conferencing (Inyang-Abia 2014a)

3. Three Silent Revolutions, Many Flamboyant Kingdoms!

Historical facts explain that three major worldwide revolutions have shaped the world. They have been responsible for the current developmental stage of the world. All major global economic, socio-cultural, educational, environmental and technological changes result from these revolutions. These global revolutions affect various parts of the world at different rates and have varying cultural consequences on human lifestyle and living conditions.

Before each silent revolution, many flamboyant kingdoms flourish. They struggle in gradual succession, dovetailing and tapering off over a considerable period, nonetheless leaving behind them major legacies upon which succeeding technologies and generations build. The three revolutions under consideration are the Agrarian, Industrial and Communication Revolutions. None of these silent revolutions failed to make substantial impactful global changes on all aspects of human life and living.

a) The Agrarian Revolution and Educational Legacies

The gradual global transition from the crude wandering-hunting-gathering economy of the Stone and Metallic Ages to that of settled-cultivation-agriculture marked this revolution. Demographic transition, concentrated population, improved transportation and advanced living conditions characterized the period. The Agrarian Revolution transited from the pre-agricultural period characterized by the Paleolithic nutritional habits of the savage Stone and Metallic society to a more humane agricultural period typified by cultivated foods using improved technologies.

Among others, some major highlights and educational legacies of the Stone and Metallic Ages terminated by the Agrarian Revolution are as follows:

i. The ***development of writing (pictography and ideography*** such as the ***cuneiform*** on the Sumerian sun-dried clay bricks, Egyptian ***hieroglyphics*** on the papyrus and ***Phonetic writing.***

ii. **"Rememberers"** as a group of specialists devoted to recall of historical facts.

iii. Use of any ***available surfaces*** (rock surfaces, cave walls, tortoise shells, hides, skins and bones) ***for writing and painting.***

iv. Rise of a ***powerful Priesthood and the Scribes*** that monopolized scientific and religious knowledge as their exclusive right often in secluded ***monasteries*** and ***nunneries.***

v. Increased **need** ***for record keeping*** and ***one-on-one instruction*** with ***itinerant teachers*** who had the ***monopoly of knowledge*** followed about by a small group of learners.

vi. The ***Hammurabic and Mosaic Codes of Law*** carved out on sun-dried clay plates and on stone tablets, perhaps using pictographs, ideographs and phonetic symbols.

vii. The development of the ***libraries*** by ***Alexander the Great*** and enriched by ***Ptolemy at Nineveh and in the monasteries and nunneries*** during the Babylonian times by the Hittites, the Assyrian-Babylonians, the Hebrews and the Egyptians.

viii. The ***population concentration*** also encouraged advances in mathematics, architectural construction, commercial records, administration and governance; astronomy, philosophy, medicine and religion; literature, history and science, wars and diplomatic incursions also demanded efficient and dependable record keeping.

ix. ***Face-to-face*** mode and the ***Socratic*** (question-and-answer) method with no attention to the psychology of human learning.

x. Limited access to formal education by the ***Priests*** and the ***boys of the ruling classes.***

xi. The unstandardized ***curriculum*** tailor-made to suit the knowledge and skills needs of the learners, the family and the society.

xii. Emphasis on ***functional occupational skills and rhetoric resulted in full employment.*** (Inyang-Abia, 2004)

The Agrarian Technologies also included simple farm tools, cultivation, subsistence practices, and shifting cultivation that encouraged sustainable farming practices. Later on, it advanced further from subsistence agrarian economy to a more sophisticated and a more productive form of agriculture. Expanded educational opportunities, new political structures, newer technological implements and massive social changes occurred within the next hundreds of years before the next revolution.

b) The Industrial Revolution and Educational Legacies

The second revolution that advanced the world marked a period of transition from crude to complex manufacturing processes. The convergence of James Watt's (1736-1819) steam-power and Gutenberg's (1398-1468) letterpress printing technology kick-started it from about 1760. The industrial society transited from purely manual to mechanical production methods. Development of new chemicals, updated manufacturing processes, renovated iron and steel production processes, improved efficiency of waterpower, and modernized steam and machine tools, catapulted the manufacturing world. The industrial world advanced from wood and other bio-fuels as major source of energy to coal and later, Faraday's (1791-1867) electricity. The 20th century saw the second phase of industrial revolution attributable to rapid evolution of electric communication and the combustion engine. True to Marshall McLuhan's (1911-1980) prediction in 1962 ***the book has ceased to be the king*** **and** ***the world had long shrunk to a global village.***

Digitalized knowledge acquisition, information gathering, and skills building had long modified human thinking and behaviour since Charles Babbage, the Father of Computing (1791-1871) and John Vincent Atanasoff, (1903-1995), the Father of the Computer and inventor of the first electronic digital computing device (The ABC computer) provided the platform for the astronomical digitization of human activities. There has been greater internationalization and cross-fertilization of ideas transversely spanning the ages, professions and nations because Education and Technology are no respecters of professions and political boundaries, nor economic developmental eras of nations.

Although the word ***paper*** derives from ancient Egyptian writing material, **papyrus**, and even though it was produced as early as 3000 BCE in Egypt, ***Paper Technology*** started in ancient China during the ***Han Dynasty***: The Golden Age of Chinese History (206 BC-220 AD). Like other technologies, ***the Chinese Paper Technology*** proliferated slowly all over the world through trade and cultural transmission. **Ts'ai Lun's** original proposal in AD 105 for cheap papermaking technology that relied on wood has been mass-produced with cheap inputs and large-scale production techniques. Its lightness, portability, variability in colour and thickness, have combined with ease of use, cheapness and reusability to endear paper to the whole world thereby crowning it ***the King during the Wooden Kingdom.***

Among the educational highlights and legacies of the Wooden Kingdom apparently terminated by the Industrial Revolution the following highlights are important:

i. ***Improved mobility***
ii. ***Greater population concentration***
iii. ***Invention of the paper***
iv. ***Invention of the printing process***
v. ***Books became cheaper and more widespread***
vi. ***Books were more portable and cheaper***
vii. ***Heavy reliance on talk-and-chalk***

viii. ***Rise of school library***
ix. ***Tools technology in education***
x. ***General aims rather than specific objectives.***
xi. ***Teacher-centred education***
xii. ***One-shot examination***
xiii. ***Heterogeneous class structure***

c) Communication Revolution

The current civilization has brought us to the Modern Period (Modern/Plastic/Jet/Net Age). It started about the 15th century following Johannes Gutenberg's reinvention of the printing technology at about 1439. This reinvention and introduction of the printing process using mechanical movable type by the German blacksmith, goldsmith, printer and publisher, Johannes Gutenberg, started the Printing Revolution, one of the most important inventions of the modern era. This process played a very significant role in the development and expansion of the Renaissance, the Reformation, the Age of Enlightenment, the Industrial Revolution, the Scientific Revolution and the present ***Age of Technological Revolution where Light is the King.*** Johannes Gutenberg is the eighth among the top 100 most influential personalities of modern civilization.

4 (a) Communication and Writing Systems Technologies: A Chronicle of the Fallen Kingdoms

History of communication, writing and writing systems also approximates the historical periodization of human civilization and technology. For example, the invention of writing of numbers and words respectively in Egypt, Mesopotamia and China coincided roughly with the Stone and Metallic Ages. Rocks and cave walls formed the major surfaces where sculptured or painted messages left indelible pieces of information even for the modern world. ***Proto-writing*** of the early Neolithic period using ideographic and mnemonic symbols to convey information was significant. The ***Bronze Age writing*** (e.g. ***Sumerian cuneiform*** on their sun-dried clay bricks, the

Egyptian and Cretan hieroglyphics on their papyrus, and the ***Chinese logographics*** on their wooden surfaces, gradually succeeded the proto-writing.

The ***Iron Age writing*** that dates back to about 1050 BC gave rise to the Aramaic and the Greek alphabets. These in turn led to the writing systems used throughout the Mediterranean region, Western Asia, Africa and Europe. The Greek alphabets introduced, for the first time, explicit symbols for vowel sounds. This gradually developed during the Middle Ages and the Renaissance and led to true writing, as we know it today.

So far, writing technology and materials have evolved from stones of the Stone Age through ***metals, clay-bricks, papyrus, wood and paper*** during the various evolutionary stages of human progression to the ***Light Kingdom*** in the present generation. Light has become the major medium of communication. Whereas ***Rocks, Metals, Clay, Bricks, Papyrus, and Wood*** were Location Specific Technologies (LSTs), ***Paper and Light are*** global in their Kingship.

(b) Communication Technologies: Perfecting Human Imperfections

Humans are so far the only known species that talk. Yet the human speech has numerous imperfections including rapid speech perishability, its transient nature and voicing problems, not to mention the sublingual expressions that diverse meanings may change with culture. Imperfect as it may be, the speech has eased dissemination of thoughts and concepts. It has stimulated creative discoveries associated with storage of the naturally transient speech.

Information and Communication Technologies have developed strategies and gadgets capable of concretizing the abstract. New forms of communication have developed. Communication behaviour has been compelled to improve. The dimension, diversity, storability, veracity, authenticity and longevity of documentation of information using signs and symbols to represent human thoughts, speech and concepts have all expanded. It all started during the Stone and Metallic Ages of the Prehistoric Period.

Engraving of information on stones (marble, granite, and graphite), metals, or other durable materials in order to secure the record permanency is a time-honoured practice. At the inauguration of the nation of Israel, the two Mosaic Tablets of Law were carved on stones. Exodus 31:18 says:

> ***When God had finished speaking to Moses on Mount Sinai, He gave him the two flat stones on which He had written all of His laws with His own hand*** **(Contemporary Bible).**

Subsequent Mosaic Laws continued to be sculptured on stones, so also were the Hammurabic Code of Laws engraved on stones. ***The Stone Technology ruled the then communication world.*** Using communication technologies (writing systems, materials and symbols) as the decisive factor and the Kingmaker in any given historical era, the ***Kingship of Technology*** leaves no one in doubt.

5(a) Faded Kingdoms, Surviving Technologies: Legends of the Stone and Metallic Ages

Elementary periodization of history reminds us of the Prehistoric Period (The Stone Age and The Metallic Age). One after the other, the Stone Technologies and the Metals Technologies ruled the Prehistoric World, the latter gradually and imperceptibly dovetailed into the former but not completely overtaken. The other historical periods are the Middle (Dark) Ages or the **Medieval** Period, the **Ancient** Period, the **Renaissance**, and the **Modern** Period. These historical periods were ruled by their respective prominent technologies modified by local characteristics.

Using the three cradles of civilization (Nile Valley of Egypt, Tigris and Euphrates Valley of Mesopotamia, and Yangtze Kiang, Se Kiang and Hwang Ho Valley of China) and their respective tool-making technologies as the criterion, the major features of the Prehistoric Period confirm that the Stone and the Metals had overwhelming influence. Lifestyle, family structure, religion and governance were tied to them. However, technological developments hardly provide clear distinctive demarcation deadlines. One may therefore not doubt the reason why

prehistoric technologies still linger on in some cultures until the 21st century (Inyang-Abia, 2004).

The Ancient Period started with the first written records at approximately 3600 BCE. It gradually but not completely dovetailed into the Stone and the Metallic Ages. Historians believe it ended with the fall of several signifieant empires, particularly the Western Roman Empire of the Mediterranean Region, the Han Dynasty in China, and the Gupta Empire in India, one after the other around 500 CE. The Middle (Dark) Age historically succeeded the Metallic Age. Yet the ***Stone and the Metals Technologies,*** which ruled the Prehistoric World many millennia ago, are still very much around.

(b) Kingdoms come, Kingdoms go: Technologies rule the World!

No King exists without a Kingdom. The evolutionary growth of technology coincides roughly with the historical ages of the world. Each historical period, for example, has its dominant tools-making technologies, documentation technologies and educational technologies, to mention just a few. Because **technologies rule the world**, each historical period is governed, controlled and managed by the dominant technologies irrespective of the person who physically sits on the throne.

That means technologies of a given age or historical period constitute the ***ipso facto*** royalty that outlives the human lineage. As used in this context, technologies refer to the various areas of ***study, mastery, practice and systematic application of scientific knowledge to practical tasks in order to create wealth, improve human capacity, reduce labour, prolong life and improve human general welfare*** according to Inyang-Abia (2004:2).

6 (a) The 21st Century: A Narrative of the Light Kingdom

At point of creation, the first thing God commanded into existence was Light. ***"Then God said 'Let there be light' : and there was light" (Gen 1:3).*** God saw light to be good but technologies were yet to develop to the point of its enthronement for its Kingdom to fully

manifest. Enthronement of Light during the era of Industrial Revolution marked the beginning of the Light Kingdom. Michael Faraday (1791□ 1867), the English self-taught scientist who focused on electromagnetism and electrochemistry without formal schooling beyond basic reading, writing, and mathematics, and never went to college, deserves the credit for initiating the ***Light Kingdom***. Difficult as it may be to imagine a world without Electricity, yet that was it before Faraday's epoch-making discovery.

The electrical communication had globally demonstrated the importance and potential of electricity in information and communication. The world will never be the same again because of Engineering physics, achievements and developments that have jointly given us the Internet (1969), world-wide-web (WWW) (1989), broadband and the mobile phone. The 21st century marks that third phase of Industrial Revolution with emphasis on communication technologies.

The Internet (1969), Tim Berners Lee's WWW of 1989, globalization and globalism, need for renewable energies, and incidence of global warming have all cooperated to trigger off the Communication Revolution. These have also collaborated with other forces to promote major developments at the personal, local, mutual, societal and economic structures vertically and laterally. ***Knowledge Economy (K-Economy)*** is rapidly pursued because knowledge has now gained acceptability as a major marketable resource and lasting commodity.

Mind-power and multi-tasking abilities rather than ***Manpower*** and single-tasking skills are vigorously pursued and highly demanded in the global job market. ***Green Economy (G-Economy)*** with its interacting foundations of Clean Mechanism is currently transiting the energy resource from fossil to **renewable energies. What if** all buildings become **mini solar energy generating plants?**

Development of sustainable **energy storage technologies and capacities** can capitalize on the power of the Internet technology to

transform the energy and the transportation system. Solar dependent transport vehicles have been built and currently tested. The built-up **is gradually moving up towards the expected sustainable society.**

The current move towards K-Economy, G-Economy and the rapid spread of formal learning to the masses would not have been possible without the enthronement of Light. Based on the concept of the symbols (conventional representation of a concept) human creative minds needed to perfect the deficiency of speech partly through Gutenberg□s Printing Revolution, and partly through the electronic developments especially the astronomical digitization of human activities. These developments have jointly wiped out the teachers' monopoly of knowledge and expanded human knowledge horizon.

Herbert Marshall McLuhan (1911-1980) the Canadian Philosopher of Communication theory, one of the cornerstones of the study of media theory with practical applications in the advertising and television industries, arrived the scene. McLuhan coined the expressions the ***medium is the message*** and the ***global village.*** He predicted the ***World-Wide-Web*** almost thirty years before its invention. Now the ***Cloud*** has become the best market place for banking transactions, product and services advertisement and distribution, religious and evangelistic sermonization, international, national and local political campaigns, teleconferencing and webinars, social relationships including something as serious as selection and courtship of spouses. Even the bedroom is never too sacred for the **Cloud tools because of their attention-compelling characteristics.**

Nevertheless, in the education industry, functional use of the ***Cloud*** seems to be slower than it should comfortably be. **Yet instructional delivery skills through the cloud** has the pleasantness, the force, the penetrating effect and the capacity to solve a variety of educational problems of space, class congestion, inadequate expertise, brain drain and corruption, despite some inherent problems.

The 21st century is marked by rapid regional integration and globalization. Development is fueled by astronomical progress in

Information Communication Technologies (ICTs). Through expanding possibilities of mobile communication gadgets, the Cloud interlinks various economies and replaces regional influence with global interest. This makes increasing worldwide demand and competition for unsustainable resources to rise rapidly with growing populations which Population Clock (2014) predicts to be 8 billion this year. They all have negative effects that only sustainable curriculum can abate.

Moreover, industrialization and increasing demand for fossil-dependent energy sources have conspired with rapid deforestation to accentuate increased levels of environmental degradation and a growing threat of global warming, food insecurity, flood and drought disasters, among others. Attempts at alternative energy sources, notably, Solar, Wind and the Nuclear with emphasis on Clean Mechanism and sustainable technologies have not yet received popular acceptance. Increasing demand for total sustainability has received the clarion call for rapid development of G-Economy to cooperate with and supplement the K-Economy for paperless society. All these are dependent on light energy. ***The Light Kingdom*** has finally arrived. Like the Wooden Kingdom (Paper and Board), the ***Light Kingdom is universal*** having the overarching power above all the past Kingdoms.

(b) Characteristics of the Light Kingdom

Among numerous others, the following major highlights are important.

i. ***Information mobility:*** Emphasis beyond year 2000 is movement of information at the speed of light, rather than on human mobility. The computer, the electronic mail (e-mail) and the Internet facilitated by the mobile telephones, the remote technologies and other improvements in new information technologies have combined to reduce time and space while increasing speed and human exploratory abilities. Information technology as an area of specialization has great potentials for education sector because of the Cloud.

ii. ***Population explosion:*** According to the United Nations, world population reached **7 Billion on October 31, 2011** and is growing. Over

83% of them live in the developing countries including Nigeria. ***(http://www.worldometers.info/world-population/)***. This year (2014), world population estimate of 8 billion implies greater pressure on educational facilities and therefore more challenges to the curriculum technologists unless there is greater reliance on the Cloud.

iii. ***Accurate documentation and greater reliance on literacy:*** The present era relies heavily on literacy skills: ***print literacy, visual literacy, computer literacy, mathematical literacy and environmental literacy,*** among others. Developments in physics leading to sharper photography, audio and video recording, transmission, storage and retrieval systems have greatly facilitated accurate documentation, storage and retrieval using the Cloud.

iv. ***Expanded school library:*** The virtual library has now taken over. Inter-library co-operation has expanded beyond measure. Libraries now reside in the Cloud.

v. ***Process technology:*** Increasing emphasis on how humans receive, store, process, retrieve and utilize information has led to improvements in teaching and learning. Teacher education now focuses more on the learning processes than on the product. There is greater emphasis on the psychology of human learning and improved methodology with sharper focus on the Cloud to capture the possibilities of Digital Learning, Blended Learning, M-learning, Gamification, the Modular Object-Oriented Dynamic Learning Environment (MOODLE), Lifelong and Life-wide learning based on new communication technologies resident in the Clouds.

vi. ***Individualization and massification of instruction:*** Both individualization and massification of instruction have arisen as two possible extremes. Individualization packages include ***individually Guided Education (IGE), Programme for Learning in Accordance with Needs (PLAN)*** **and** ***Individually Prescribed Instruction (IPI).*** Massification of instruction, on the other hand, mostly results from instructional radio and television. They are designed not for an

identified learner but for the masses, the heterogeneous population widely scattered in location, interest and needs.

vi. ***Media in the Cloud***: The Skype, the Google, the Twitter, Cloud computing, and Social Media landscape have conspired to transform the way people interact and organizations operate. The Modular Object-Oriented Dynamic Learning Environment (MOODLE) as a free software e-learning platform, a Learning Management System and a Virtual Learning Environment is available for use by the regular Digital Visitors. Also available in the Cloud are synchronous and asynchronous tools to be accessed for instructional purposes.

vii. ***Learner-centered education:*** The learner, rather than the teacher, is of central interest of curriculum activities. This has led to learner-focused improvements in the structure, contents and implementation of the curriculum, the classroom and teacher preparation. For example, instructional objectives have become better learner-focused, sharper and better guide to learning activities. The teacher centredness and monopoly of instruction have been finally smashed. Learning rather than teaching is the current emphasis.

viii. ***Limitless educational opportunities:*** The present era has limitless educational opportunities occasioned by break-through in information technology, psychology of human learning and greater need for ICT. Access to formal education has expanded to involve everyone who is willing to and capable of learning, irrespective of age, location, or background. Open and Distance Learning options, Digital Education, Mobile Learning have freed the learner from the grips of formal school structure and capitalized on technological developments and available infrastructure to bring formal education to everyone's doorstep irrespective of location.

ix. ***Environmental decay:*** Increasing use of fossil fuels to run various forms of machines characterizes this. There is steady decline in the quality of environment owing to high population concentration and eco-hostile exploitation of natural resources. Clean-cut deforestation and excessive dependence on fossil fuels have contributed to the

pollution of soil, air and water: the vital components of the Biosphere. All these lead to rapid environmental decay and Climate Change that Environmental Education and technology can help to reverse through increased environmental awareness.

Both Education and Technology are currently operating from the Cloud within the Light Kingdom. Inability to acquire the right tools, techniques and strategies to access them from the Cloud limits the speed and the horizon of an individual, a state or a nation to log on to the source of power. ***He who controls technology monopolizes knowledge, and if knowledge is power, then that same one controls power.***

7. Education, the Vehicle: Curriculum, Its Engine

Various civilizations and cultures have had varying views of education. To Inyang-Abia (2005) education involves ***integrated life-long processes of acquiring and utilizing desirable, functional and useful knowledge, profitable skills, ethical values and attitude systems in order to facilitate human attempts to become better and more useful to self and the society.*** The process can be formal for example, schooling and training. It can be informal, for example, apprenticeship. It can be non-formal and experiential when directly acquired from the society or the Cloud.

For education to be functional and useful, its contents must be comprehensive enough to improve the whole individual and the society. The knowledge, skills and moral values must be in tune with the acceptable norms, laws, regulations and the general pattern of life in the society. The contents of education should also question such norms and practices with a view to improving on them. Education can therefore function as an improved means of enculturation and socialization through the following, among others:

a. Research;
b. Schooling;
c. Indoctrination;

d. Instruction;

e. Training;

f. Initiation;

g. Adaptation;

h. Learning; and

i. Teaching.

If education is truly Nigeria's vehicle for attaining national development, social change, progressive and united Nigeria, maximum creative potentials and skills for individual self-fulfillment and general societal advancement as enshrined in the National Policy on Education (FRN, 2013:Section 1) then the ***curriculum is its engine, teachers, the driver***. Without a functional, well-oiled and empowered engine and a committed driver, the vehicle cannot start, not to talk of moving. Can the 7-Point Agenda of Mr. President and Vision 20:2020 be achieved without the curriculum support?

Nigeria's ability to appreciate and accomplish its targeted ambition of becoming one of the leading 20 economies in the world by the year 2020 (or the nearest future) is largely contingent upon the curriculum system of the education business. Our capacity to transform the current 62.5% youthful population (aged 0 to 24 years) into a highly skilled, competent, knowledgeable and capable workforce inoculated with marketable skills and global competitive spirit depends upon our curriculum. The curriculum in particular has a vital part of that responsibility for preparing such a workforce in Nigeria. The quality, relevance and concurrency of the curriculum are therefore becoming increasingly critical to the attainment of national goals and global competitiveness. **Implementation of such curriculum demands urgent penetration of the Cloud.**

Education develops and builds up the human mind, skills and values through the judicious combination of many variables including:

a. nature of the learner;

b. contents and matter of instruction;

c. instructional processes;

d. materials; and

e. learning environment.

One major function and a by-product of education is development. Progress in education should result in increasing productivity, gains in socio-cultural life, progress in technological skills and aspirations, better citizenry and eco-friendliness. Functionally designed curriculum, judiciously implemented by well-motivated personnel using adequate instructional materials and strategies within an enabled environment can balance national development with progress in education.

The curriculum is the engine that drives education. It is also the societal operational image. The level of societal development and the curriculum in its entirety are inextricably interwoven. It involves ***all desirable and positive learning experiences available to a learner while undergoing an instructional, training or an educational programme within a given social context.*** It involves the whole process of communicating proven knowledge, values, skills and contents; aims, goals and objectives; training, socialization, relevance and culture; authority, freedom, political and environmental sustainability, between the more knowledgeable and skillful and the less knowledgeable and skillful groups or individuals (Inyang-Abia, 2005:13).

8. The Curriculum: Racing in the Cloud

C***urriculum*** has Latin origin: ***curéré*** that means ***to run***. Its noun equivalent ***currus*** means a race, course, track or pathway. Applied within the context of education, the various words and phrases essentially express the concept of the curriculum as a course of study. At least ten features characterize the curriculum, giving it the semblance of a physical race. These are:

i. Mapped out tracks

ii. Umpires

iii. Rules and regulations
iv. Timing
v. Starting and finishing points
vi. Competitiveness
vii. Anxiety and stress
viii. Continuity
ix. Stepwiseness
x. Motivation

Modern concepts of the curriculum include the unplanned positive learning experiences. The terms: ***experiential learning, hidden curriculum and the co-curriculum*** are currently accepted expressions for the unplanned learning experiences. These experiences are usually offered overtly to, and acquired informally by, the learners. For example, improved social relationships, religious characteristics, status symbols and gait, leadership qualities and information processing techniques may not be directly taught as components of planned learning experiences. They are imperceptibly acquired by learners through the process of interaction with other learners, learning community, media and with teachers (Inyang-Abia, 2005).

Moreover, modern thinking does not limit curriculum implementation to the confines of the school because of the increasing value of digital behaviour and the expanding use of modern techno-communication media. They make the curriculum contents to impact on the learners anywhere. Modern communication technologies have therefore shattered the exclusive reserve of the curriculum to the four walls of the classroom, pushing it into the Cloud. Capability and willingness to learn rather than where learning takes place or who guides learning format, structure and content seem to be two major considerations affecting the acceptance of learning experiences and the curriculum.

That which is planned under the guidance of the school makes it official. Nevertheless, there is a wide gap between that which is ***officially planned*** for and that which is ***offered*** to the learners, let alone that which the learners ***receive.*** This means that the so-called planned experiences are not the same experiences given to, nor the same received by, the learners. The ***planned experiences*** are mere ideals, unachievable, only a pointer to what is expected.

All forms of organized instructional and educational systems are usually involved in communicating socially acceptable and approved knowledge, skills, morals, norms, values and other behaviours. They operate within a defined curriculum or course of study and offer relevant experiences aimed at transmitting culture for continuity, growth, social control and rational direction of the society (Inyang-Abia; 2005). That means the traditional or indigenous systems of education operate within a defined course of study,(Fafunwa;1974) some of which may be documented, others not, as long as they operate within the acceptable social context.

Viewpoints surrounding these concepts are bound to differ. Nevertheless, current explanation of the curriculum can better be appreciated when the following views are carefully examined.

a. The curriculum is a ***subject-by-subject book of prescription.***
b. It is an ***educational agenda*** that is dictated by a given society's historical past, their current needs and future expectations.
c. It is the ***mirror image*** of a society and therefore cannot be better or worse than the society it reflects.
d. Attempts to universalize the definition of curriculum cannot be successful because it is a concept with elastic meaning that reflects the ***designer's values and value systems.***
e. Discrepancies exist between the ***official curriculum*** and the ***actual curriculum*** operating in the schools.
f. The ***hidden curriculum*** (the co-curriculum) which is not officially recognized is as important as the ***overt*** one because some very valuable learning experiences required in life can be

acquired only vicariously rather than be officially taught. For example: tolerance, personal maturity, and sympathy; social, political and technological ingenuity; moral compunction or spiritual growth can best be acquired experientially.

g. The curriculum involves many things: The ***written document*** (plans and programmes), the ***teachers' repertoire of knowledge, attitudes and skills;*** the ***actual interactions*** with learning experiences and resources, among others that can be offered by society, at a given time, to the learners.

h. ***A plan*** suggesting the contents, the objectives, methods, resources, learning experiences and evaluation instruments and techniques specified for a teaching-learning situation constitute the curriculum.

i. The ***quality of the teachers,*** their motivational level, value system of the socio political structures, among others, determine the level to which the official and the co-curricular activities can be effectively operationalized and implemented.

j. The official curriculum and the surrounding ***socio-economic circumstances*** can influence the actual curriculum positively or negatively.

k. Although the ***official curriculum*** emphasizes equality of all subjects the actual curriculum hardly provides equal opportunities for relevant learning experiences in all subjects.

l. ***Curriculum in theory*** **is not** ***curriculum in practice,*** yet their inter-relationships with reality of life are inevitable.

m. The curriculum is a ***cookbook, the cook and the ingredients.*** It is more than a simplified formalized interaction.

From the above it becomes obvious that the centrality of the curriculum in societal changes and development generally and in the education business is incontrovertible. Among the numerous components of the educational processes and practices outside the learner, the curriculum is the most central.

All activities, resources, facilities, personnel and clients associated with the education sector are geared towards ensuring that

the curriculum has the expected impact on the behaviour of the beneficiary. Educational administration competencies, the various educational planning strategies, counselling techniques and globally acclaimed technological innovations within the education discipline are supportive of the curriculum. They sharpen its biting teeth. Take away the curriculum then education is no more; everything else immediately crumbles. The society and all its other sub-systems disintegrate. Things fall apart because the centre can no longer hold.

Perhaps it is because of the cardinal role that curriculum plays in the society through education that there is the regular call not only for overhauling the curriculum to reflect societal changes but also for introduction into it various aspects of life and living including:

i. Sex Education
ii. Population and Family Education
iii. Environmental Education
iv. HIV/AIDS Education
v. Traffic Education
vi. Climate Change Education
vii. Entrepreneurship Education
viii. Peace and Conflict Resolution Education
ix. Drug law
x. Computer Education
xi. Tourism Education
xii. Anti-corruption Education

9. Evolutionary Growth of the Curriculum in Nigeria

The growth of the curriculum in Nigeria fits roughly into the three-stage periodization of Nigerian history: The first era covers the Traditional Nigerian Education Period that falls before the arrival of

Western education in Nigeria in 1842. **Indigenous Traditional Knowledge (ITK)** was in vogue. It had multilateral objectives designed to produce balanced individuals who were honest, skillful, respectable, cooperative and hardworking.

It provided for physical skills to respond to the environment, develop socially sound character according to the culture, and respect the elders, peers and environmental ethics. Youths were to be sound intellectually in order to understand and interpret the environmental signs and proverbs and contribute intelligently to the development of the society.The unwritten traditional curriculum provided for total integration of the child for the community.

The second era took care of the Colonial Education between 1842 and 1960 when **Reading, Writing, Arithmetic, Religion and Rural Science/Nature Study (the 5Rs)** introduced in the 1840s had taken some roots. Although many proposals, edicts and commissions on education such as the Phelps-Stokes Commission of 1920, Hussey's proposal of 1930, Elliot's Commission of 1943 and Ashby's Commission of 1959 were made or set up between 1914 and 1960, none of them made any significant effort to domesticate the curriculum for Nigeria (Inyang-Abia, 2014a).

The ***Post-independent Curriculum in Nigeria*** did not start immediately partly because of the teething problem following independence and partly because of the divided attention arising from the Nigerian Civil War of 1967 to 1970. Among the existing socio-cultural structures that cannot easily alter with the sweeping wind of change is formal education, both as an institution and as accepted practices.

It took Nigeria nine years (1960-1969) to even give a serious thought to curriculum innovation. Through the National Curriculum Conference of 1969 Nigeria was enabled to become marginally separated (not completely divorced) from the British educational structures, systems and practices that had taken deep roots in Nigeria since 1842. Nigeria took seventeen years (1960-1977) as an

independent national entity to have her first National Policy on Education (FRN: 1977) following her political independence. At 54, and with current technological developments, time is up for the Curriculum in Nigeria to jump into the Cloud (Inyang-Abia, 2014b).

10. Curriculum Dynamics and Functionality Variables

Structural conservatism in Education industry can also be attributed to the nature of formal educational framework and the drivers. They neither allow free trickling down effects nor diffused innovations at short notice. In-grained conventional practices, formalized structures and age-old principles constitute major bottlenecks. Yet educational institutions are very fragile. Their operational existence easily gives in to societal upheavals including political and economic shocks.

Nevertheless, the curriculum, being the heartbeat of formal education, should however be more responsive to the changing needs of the society and those of the individual learner. It should be more dynamic. However, dynamism of the curriculum depends upon a wide variety of variables including the educational processes, approaches, philosophies, goals and objectives, among others as listed below:

i) Content Relevance;
ii) Evidence and Mode of Storage;
iii) Finance;
iv) Flexibility;
v) Knowledge and skills explosion;
vi) National Policy on Education;
vii) Objectivity;
viii) Philosophy;
ix) Politics;
x) Pre/In-service training programmes;
xi) Psychology;

xii) Purpose;

xiii) Rational structure;

xiv) Relevance;

xv) Sources/nature of learning experience;

xvi) Team Contribution;

xvii) The human and societal need.

Utilitarian philosophy emphasizes the functionality of the curriculum. It dictates some vital conditions or requisites necessary for such functionality to materialize. Curriculum functionality requires robust internal validity and consistency. The curriculum nature, content, quality and structure must effectively interact to ensure that the entire curriculum components agree, are compatible and free from self-contradiction in relation to the goals and objectives. They must also be sound enough to fulfill all the necessary conditions that the curriculum was designed for.

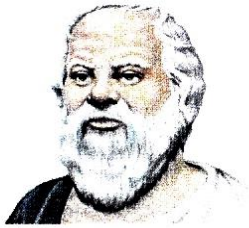
11. Rebooting within the Digital Taxonomy

To reboot means to reinitialize a system. It involves abandoning all recognized stable continuity in an established convention and habitual series in order to recreate the quality, nature, reputation, timeline and back-story from the beginning. **Rebooting** is an ICT term that describes the process of restarting an electronic device such as the computer either intentionally or unintentionally. It means being born again so that the old things are passed away.

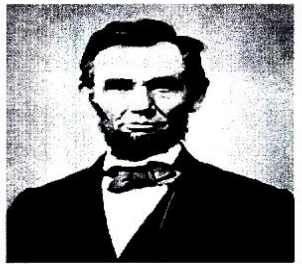
Reboot can be ***hard (cold)*** when the power source to the system is physically turned off and then on again, causing the system to re-initialize. It can be ***soft (warm)*** when the system restarts without the need to disrupt the power flow. Whenever it is necessary to recover from an error (such as rejected school products), or an overload (such as overcrowded dysfunctional classroom), or to re-initialize drivers (for example retraining of teachers) or hardware devices (for example the curriculum), a reboot process is automated.

A system, a computer or a hardware device that encounters an error or is overloaded may reboot automatically. Real active life is dynamic and may not always be too late to restart all over. If one was unsuccessful previously there is need to re-try something different next time.

Socrates



Abraham Lincoln



Well-motivated individuals and great minds never stay stuck. Ask Socrates how he came to be one of the greatest teachers of his generation; ask the 16th President of the United States of America, Abraham Lincoln, the number of times he failed before becoming the President of the most powerful nation on earth. Ask Bill Gates, the Harvard University dropout who later got honorary doctorate from there and elsewhere, now the most famous American computer programmer, business magnet, and an investor of no mean repute, a philanthropist and an inventor with a net worth of over US $81.3 billion. What of Henry Ford, the founder of Ford Motors, whose business failed five times before his huge success?

Henry Ford

Bill Gates

Soichiro Honda

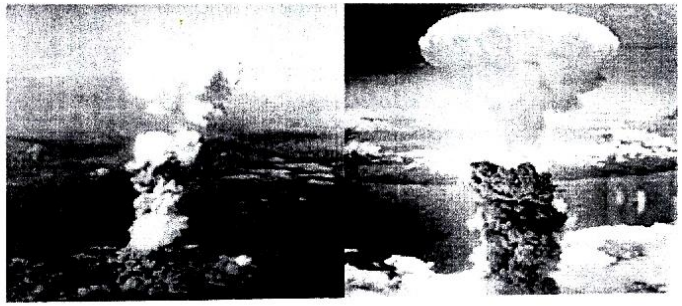
Inquire from Mr. Soichiro Honda, the founder of the billion-dollar Honda Motors; ask F W Woolworth, the worldwide departmental store magnet or Michael Faraday, the Father of Electricity. We can draw examples from Einstein and Gutenberg. There is no need to ask Japan how it became what it is presently after the Hiroshima and Nagasaki atomic bomb leveling of 1945. The curriculum system, our dear country, Nigeria, and individuals can draw inspiration from them to reboot

Michael Faraday

F W Woolworth

Gutenberg

Einstein



Atomic bomb mushroom clouds over Hiroshima (left) and Nagasaki (right) on August 6 and 9, 1945 which ended the Second World War

Light rules the 21st century curriculum. Economic paradigm sharpens educational focus through its engine, the curriculum. ***Economic paradigm had long shifted from resource-base to knowledge-base, from manpower to mind power. Digital taxonomy of educational domains had also shifted in response to the laws of curriculum dynamics*** with ultimate emphasis on creativity, not just evaluation as before (Inyang-Abia, 2014b).

As proposed by Churches (2001; 2007) ***recall of stored up knowledge*** is still the foundation but it should gradually lead to creativity, (see Figure 2) without which, not much can be achieved because creativity is interlocked with the other cognitive levels. This re-enacts the clarion call to reboot the curriculum. Note the position of the Higher Order Thinking Skills (HOTS) and the Lower Order Thinking skills (LOTS) (Anderson and Krathwohl, 2001).

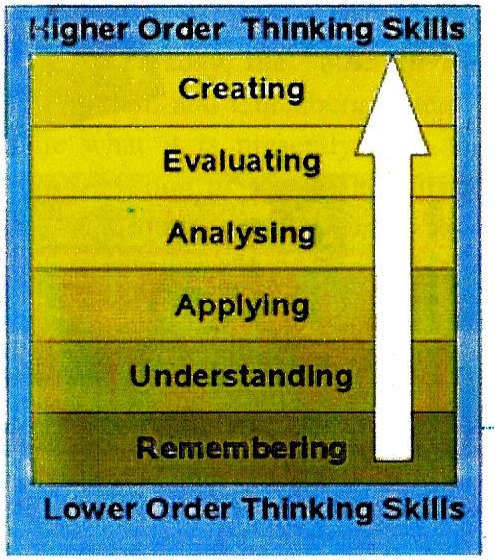


Figure 2: Bloom's Digital Taxonomy
Source: Andrew Churches (2001; Anderson and Krathwohl, 2001)

Curriculum rebooting process involves networking and collaboration. The interlocking steps listed below may be applied.

i. Constitute a team ;
ii. Check antecedents ;
iii. Structure guiding philosophy, vision and mission, goals and targets;
iv. Task analyze and assess needs;
v. Identify and structure content;
vi. Identify and acquire human and non-human inputs;
vii. Identify training needs;
viii. Develop performance standards and assessment criteria;
ix. Run a cost-benefit analysis;
x. Build relevant capacity;
xi. Build a prototype curriculum;
xii. Trial-test prototype;
xiii. Review;
xiv. Integrate feedback;
xv. Re-model prototype (Optional);
xvi. Implement or Install;
xvii. Evaluate formatively;
xviii. Review (Optional);
xix. Innovate to reflect new technologies; and
xx. Recycle.

(Inyang-Abia and Esu, 2014; Inyang-Abia and Umoren, 1995).

12. Indices of Failed Engine and Decadent Driver

The society believes in good quality education based on good and functional policies. The society has come to appreciate the functional role of relevant curriculum in solving her long catalogue of problems. Yet the curriculum has always taken the blame for numerous societal ills including the global decrease in

learner performance value generally known as ***falling standards of education.***

Picture1: Some Digital Natives in Action: Rapt Attention

(a) The Big Bane

In Nigeria the *falling standard of education* is a big bane expressed through:

- Large scale examination malpractice and certificate fraud;
- Pursuit of certificate rather than knowledge, skills and morals to back them up;
- Poor performance in public examinations;
- Low quality graduates;
- High incidence of over schooling (e.g. graduates who take up jobs meant for First School Leaving Certificate holders);
- Extraordinary level of under schooling (e.g. post-graduates students who cannot locate their country in a world map);

- Suppressed call for deschooling the society (e.g. *Boko Haram*);
- Loss of confidence in the national educational system;
- Massive brain-drain arising from poor working conditions for teachers;
- Poor productive capacity of university students;
- Rush for private educational institutions; and
- Wealth-without-work (WWW) syndrome.

Global educational, economic, political and socio-cultural dynamics dictate urgency for sustainable development in all sectors of the economy. The Nigerian total environment can no longer depend on decadent theories, sterile technologies or stale expertise, decadent equipment and knowledge of yesteryears. They have failed us woefully. These may partially account for the many woes in the environmental and education sectors even in this Light Kingdom.

Picture2: Some Digital Natives in Action: BYOL Exercise

BYOL = Bring Your Own Laptop Exercise

(b) Nigeria and Human Development Indices

How can the most populous nation in Africa continue to lurk under the shadow of others in terms of Human Development Indices (HDI) as shown on Table 1?

Table 1: Human Development Indices for 2014

Rank		Country	HDI	
Rank in Africa	Rank Worldwide		New 2014 Estimates for 2013	Change compared between 2014 report and 2013 report
High human development				
1	55	Libya	0.784	▼0.005
2	63	Mauritius	0.771	▲0.002
3	71	Seychelles	0.756	▲0.001
4	90	Tunisia	0.721	▲0.002
5	93	Algeria	0.717	▲0.002
Medium human development				
6	109	Botswana	0.683	▲0.002
7	110	Egypt	0.682	▲0.001
8	112	Gabon	0.674	▲0.004
9	118	South Africa	0.658	▲0.004
10	123	Cape Verde	0.636	▲0.001
11	127	Namibia	0.626	▲0.004
12	129	Morocco	0.617	▲0.003
13	138	Ghana	0.573	▲0.002
14	140	Republic of the Congo	0.564	▲0.003
15	141	Zambia	0.561	▲0.007
16	142	São Toné and Principe	0.558	▲0.002
17	144	Equat. Guinea	0.556	—
Low human development				
18	147	Kenya	0.535	▲0.004
19	148	Swaziland	0.530	▲0.001
20	149	Angola	0.526	▲0.002
21	151	Rwanda	0.506	▲0.004
22	152	Cameroon	0.504	▲0.003
22	152	Nigeria		
23	155	Madagascar	0.498	▲0.002
24	156	Zimbabwe	0.492	▲0.008

26	159	Tanzania	0.488	▲0.004
26	159	Comoros	0.488	▲0.002
27	161	Mauritania	0.487	▲0.002
28	162	Lesotho	0.486	▲0.005
29	163	Senegal	0.485	▲0.001
30	164	Uganda	0.484	▲0.004
31	165	Benin	0.476	▲0.003
32	166	Sudan	0.473	▲0.001
32	166	Togo	0.473	▲0.003
33	170	Djibouti	0.467	▲0.002
34	171	Côte d'Ivoire	0.452	▲0.004
35	172	Gambia	0.441	▲0.003
36	173	Ethiopia	0.435	▲0.006
37	174	Malawi	0.414	▲0.003
38	175	Liberia	0.412	▲0.005
39	176	Mali	0.407	▲0.001
40	177	Guinea-Bissau	0.396	—
41	178	Mozambique	0.393	▲0.004
42	179	Guinea	0.392	▲0.001
43	180	Burundi	0.389	▲0.003
44	181	Burkina Faso	0.388	▲0.003
45	182	Eritrea	0.381	▲0.001
46	183	Sierra Leone	0.374	▲0.006
47	184	Chad	0.372	▲0.002
48	185	Central Afr.Rep	0.341	▼0.024
49	186	Democratic Republic of the Congo	0.338	▲0.005
50	187	Niger	0.337	▲0.002

Source: http://en.wikipedia.org/wiki/Human_Development_Index

In the education sector expressed in terms of mean years of schooling and literacy rate, Nigeria is rated 22nd out of 58 in Africa and 152nd out of 187 in the world.

13. Digital Natives and Digital Immigrants in the Light Kingdom

The decadent curriculum, its debauched implementation instruments and sterile strategies currently in use in Nigeria are no longer appealing to the youthful Digital Natives. Industries

need functional graduates, not just apparently literate individuals. Digital Immigrants are currently compelling the digitalized productive workers of the future to be educated through the instruments and educational agenda of the past, yet future development is in the skills of the future encapsulated in the Cloud.

The Natives of this Light Kingdom, the Net Generation (Net Gen) learners within the Digital Age are passing through drudgery in the hands of the Digital Immigrants that are just struggling to acquire the digital culture, already inborn characteristics of the Digital Natives.

Prensky (2001a), the originator of the concept of ***Digital Natives and Digital Immigrants*** puts it right as he observes that ***Digital Immigrants instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language. That situation significantly accounts for a disconnect in the instructional balance and curriculum dynamics of the Light Kingdom***

Picture 3: Some Digital Natives in Action: Peer Tutoring

The Net Generation (Net Gen) learners who, according to Prensky (2001b) are the Digital Natives exhibit characteristics that are strikingly different from the Digital Immigrants. Among others, they are intuitive rather than linear learners. They are multi-tasked and prefer audiovisuals to tedious

reading; **they prefer an integration of entertainment and play into work, education, and social life.**

They prefer active participation rather than passive learning. Their worldview (Prensky, 2006 a & b) is less hierarchical and distance-free because the Internet levels the playground and attenuates the effect of distance, making everyone equal and present online. There is also an extensive disclosure of personal data and a culture of sharing. These characteristics call for immediate mobilization for a meaningful curriculum reboot and frog jump into the Cloud without further delay.

Have you ever wondered the reason why your child is so adept with your mobile phone? The answer is that they are the Digital Natives while we of the older generation are mere Digital Immigrants trying to acquire the Digital culture.

14 My Contributions

Most of the presenter's academic activities and research efforts have interwoven Educational Technology and Environmental Education, a brief sample of ten is chronicled below in addition to other statutory functions.

1. Between 1984 and 1985, the presenter made a pioneer effort in the design and implementation of Educational Technology as a course in the Faculty of Education of the University of Calabar. This attempt matured into the Department of Educational Technology of the Institute of Education that had long become part of the Department of Curriculum and Teaching.

   The Programme is currently running in the university. Between years 2004 and 2014, **Educational Technology Programme** had graduated over 1000 students that are working in diverse sectors of the economy. Some graduates of that programme are lecturers in this university and in

other institutions of higher learning in various parts of the country, having completed their higher degrees. Some are working in the banking industry. Those that have ventured into the Movie Industry have become very successful.

Figure 7: At Jordanhill College, Glasgow in 1990 Course 1

At Jordanhill College, Glasgow in 1990 Course 1

2. In 1990 at far away Glasgow, Scotland, as a Mandatory Certificated Assignment Requirement following successful training on Environmental Education (EE) at Jordanhill College of the University of Strathclyde, the presenter designed a Curriculum on ***Introduction to Environmental Education for Teachers in Nigeria.***

   The official opening of the Environmental Education Unit on Tuesday, 5 March 1991 before an international audience comprising nationals from seven countries marked the official inception of formal EE programme in Nigeria. It also symbolized the official adoption, with minor modifications, of that **End-of-Course Project** that started at Jordanhill College, in 1990.

   The EE course at Calabar started at the ordinary and post-graduate Diploma levels. Some graduates of that course are lecturers here today. It has now grown into a Department and is currently running programmes at Sub-degree, Degree, Post-graduate Diploma and Masters levels in collaboration with the Institute of Education.

   The PhD programme that had already been designed is awaiting processing for approval. Some departments, Nigerian Universities including the University of Abuja and other institutions of higher learning have currently adopted or modified their programmes to reflect the spirit, content and philosophy of EE of UNICAL.
3. Arising from the success of item Number 2 above, the need for a basic textbook on Environmental Education become obvious. Encouraged by the then Director of the Institute of Education, Prof. Ralph Omojuwa of blessed memory, the presenter worked assiduously with Rev. (Dr). Ewa Usang to produce the first book on ***Environmental Education for Teachers*** in Nigeria (Inyang-Abia and Usang; 1992). This attempt stimulated many other efforts later, including one by the current Vice-Chancellor of Akwa Ibom State University,

Prof. S W Petters who then was very actively involved in the EE programme design and development.

4. Inyang-Abia (1991) adopted the **Delphi Technique** to crystal gaze for twenty years (up to year 2010) some possible changes in curriculum contents and practices in the twenty areas listed below:
   i. Marketable skills development in universities;
   ii. Sex education;
   iii. New Curriculum methods and materials;
   iv. Greater emphasis on Continuous assessment;
   v. Concurrent and more relevant behavioural objectives;
   vi. Full funding for Early childhood education (six weeks to six years);
   vii. Digitalized instructional gadgets;
   viii. Computer and programmed instruction;
   ix. School media centres;
   x. Reduction in contact hours;
   xi. Renewal of teaching license;
   xii. Microteaching-based training programme;
   xiii. Graduate teachers for primary school teaching;
   xiv. Federal government sponsorship for ages 6 – 11;
   xv. Greater autonomy in the education sector;
   xvi. Reduced emphasis on boarding facilities at secondary schools;
   xvii. More diversified educational personnel in the school system;
   xviii. Performance-based salaries and promotion for educational personnel;
   xix. Wider adoption of Open/Distance learning programmes;
   xx. More flexible curriculum options in universities.
5. Using a cross-sectional random sample of 62 experienced teachers at all levels of education and the X^2 statistics, the results clearly indicated the possible areas and probable dates of expected changes. Tables 2-4 summarize the findings.

Table 2:Sample Distribution by Qualification

Qualification	N	%
Doctorate degree	5	8.06
Masters' degree	5	8.06
Bachelors' degree	20	32.26
PGDE	5	8.06
HND/NCE	18	29.04
OND/ACE	9	14.52
Total	62	100

The findings of this study as published in Inyang-Abia (1991:1-21) have been vindicated by most current policies and actual actions in the educational system in Nigeria thereby validating the Delphi Technique as a dependable projective ***modus operandi*** when planning the curriculum for today's learners preparing them for an unknown future such as called for in this presentation.

Table 3: Contingency Chi-Square Table of Desirability Index

Desirability index of selected specific items	Curriculum blocs involved				
	Training technology & resources	Content areas	Methods, objectives, evaluation	Miscel laneous	Total
No idea	31	14	13	13	71
Very undesirable	65	19	34	42	160
Undesirable	101	38	59	45	243
Desirable	172	108	133	93	506
Very desirable	267	207	209	231	914
Total	636	386	448	424	1894

X^2 cal. = 40.1963; df = (5-1) (4-1) = 4 x 3 = 12; X^2 crit. 0.01 = 26. 21; p < 0.01: significant difference.

Table 4
Contingency Chi-Square Table of Opinions on Index of Probable Dates of Occurrence

Occurrence of index of selected specific Items	Curriculum blocs involved				
	Training technology & resources	Content areas	Methods, objectives, evaluation	Miscel-laneous	Total
Year 1995	218	153	164	205	740
2000	113	69	105	81	368
2005	125	79	73	68	345
2010	160	68	101	60	389
Indefinite	36	18	13	40	107
Total	652	387	456	454	1949

X^2 cal = 54.6046; df = 12; X^2 crit. 0.01 = 26. 217; p < 0.01: significant difference

Respondents highly desire positive innovations in each of the curriculum component blocs as specified. Such desire according to available data on Table 4 were likely to be fulfilled between then and the year 2010.

These results reaffirm the basis for this call for rebooting the curriculum to take advantage of the wealth of instructional values of the Clouds as expounded in this inaugural lecture. Respondents who in 1991 felt that digitalized instructional gadgets will never come to Nigeria have experienced cultural shock arising from the expanded use of ICTs, including mobile gadgets, for instructional purposes.

Seven years after the inception of EE in the university, Inyang-Abia, (1998) conducted an Input Evaluation of the Environmental Education Programme in the University of Calabar using the CIPP approach. The details are as summarized in Tables 5 to 7.

TABLE 5:Sample distribution by status and gender

Status	M	F	Total	%
Ordinary Diploma I	20	22	42	34.1
Ordinary Diploma II	25	28	53	43.1
Post graduate Diploma	15	3	18	14.6
Course instructors	3	7	10	8.1
	63	60	123	
	51.2	48.8	100	

With a random sample of 123 respondents, the programme objectives were evaluated vis-à-vis the seven input categories. The results reported using simple percentages shown in Tables 6, indicate that the programme had successfully achieved all its objectives.

TABLE 6:Perception of level of achievement of programme objectives

	Objectives	Level of achievement						
		N	E	G	F	P	VP	Total
1	Produce manpower that can assist in policy formulation and implementation on environmental conservation/sustainable development matters	N	24	54	17	13	15	123
		%	19.5	43.9	13.8	10.6	12.2	100
2	Develop professionals that will take curriculum initiatives and assist in teaching and learning of environmental education in Nigerian educational system	N	46	27	22	16	12	123
		%	37.4	22.1	17.9	18.0	9.7	100
3	Provide expertise that will educate urban and rural dwellers on the subject of environmental conservation, management and sustainable development	N	36	49	20	10	8	123
		%	29.3	39.8	16.3	8.1	6.5	100
4	Fill the manpower requirement in environmental protection agencies, natural conservation organizations and national park	N	40	29	32	18	4	123
		%	32.5	33.6	26.0	14.6	3.3	100
5	Ensure the availability of resource persons that will develop materials for the advancement of environmental conservation and protection	N	10	32	34	22	25	123
		%	8.1	26.0	27.6	17.9	20.3	100

Where: N=Number, E = Excellence, G =Good, F=Fair, P=Poor, VP = Very poor

Table 7 shows that all the inputs except materials were at least fairly capable of achieving the specified objectives.

TABLE 7: Perception of input capability to achieve the specified objectives

Input category		Perceived capability					
		Very capable	Capable	Fairly capable	In capable	Very In-capable	Total
Contents	N	56	42	6	9	10	123
	%	45.5	34.1	4.9	7.3	8.1	100
Personnel	N	47	39	17	13	7	123
	%	38.2	31.7	13.8	10.6	5.7	100
Materials	N	14	17	12	24	56	123
	%	11.4	13.8	9.8	19.5	45.5	100
Method	N	11	31	8	50	23	123
	%	59	25.2	6.5	40.6	18.7	100
Space	N	18	27	45	15	18	123
	%	14.6	22	36.6	12.2	14.6	100
Funding	N	18	22	31	32	20	123
	%	14.6	17.9	25.2	26	16.3	100
Management	N	16	29	42	20	16	123
	%	13	23.6	34.1	16.3	13	100

6. Worried about the poverty level in his country Inyang-Abia (1999) used the HDI data to establish some basis and proposed the Curriculum Agenda for Poverty Alleviation in Nigeria. Data on Tables 8-9 and the derived recommendations speak for themselves.

TABLE 8
Poverty indicators for Nigeria as compared with other African countries N = 49

Poverty indicators	The index score	
	Value*	Rank
Food security index (FSI)	0.848	22 in terms of insecurity
Integrated poverty index (IPI)	0.498	29 from poorest
Basic needs index (BNI)	0.449	21 from neediest
Relative welfare index (RWI)	0.509	27 from poorest
Women's status index (WSI)	0.338	13 from lowest

Compiled from International Fund for Agricultural Development (IFAD) (1991: 60-76).
* An Index value of 1.00 is the minimum acceptable score for each indicator

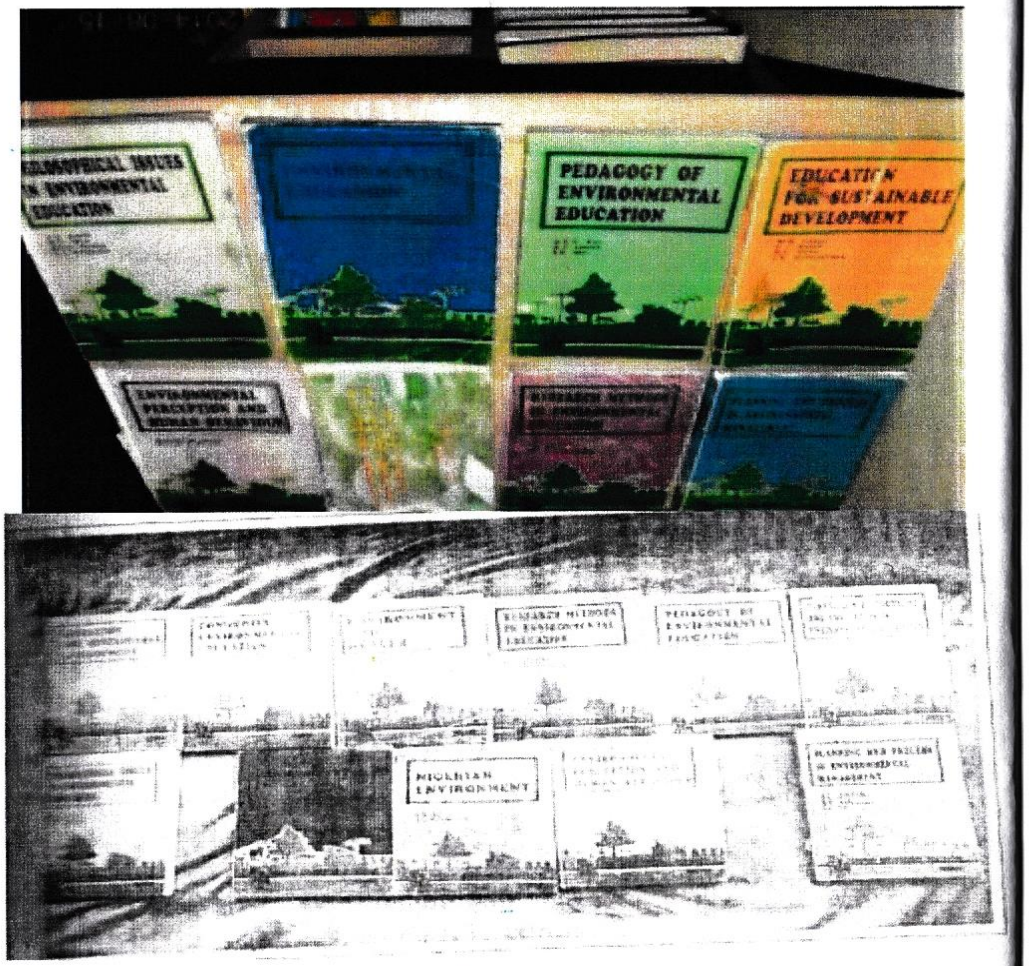
TABLE 9 **Independent t-test of Components of HDI between African and non-African Countries**

Variable	Group	N	X	SD	df	t-cal
Life expectancy (Male)	A	21	49.45	7.36		
	B	11	70.08	7.45	31	7.47
(Female)	A	21	52.45	8.2		
	B	11	75.75	8.53	31	7.44
Average (literacy rate)	A	21	54.57	18.26	31	4.43
	B	11	87.45	20.8		
Population growth rate	A	21	2.56	0.59	31	7.29
	B	11	0.72	0.72		
Income per capita (in dollars)	A	21	1,344.29	1097.19	31	5.66
	B	11	15,698.82	8370.1		
Communication (Radio)	A	20	10.61	9.56	31	3.09
	B	11	3.14	4.0		
Television	A	21	184.2	216.35	30	3.6
	B	11	9	15.38		
Telephone	A	21	317.3	280.5	31	5.33
	B	11	15.27	26.0		
Newspaper circulation (per 1000)	A	8	25.75	19.25	17	4.04
	B	10	246.3	171.39		

A = African countries, B = Non-African countries. When df = 31, t-crit. = 2.042, df. = 30, t-crit. = 2.042, df. = 17, t-crit. = 2.11

7. **The Eleven-Book Series** on Environmental Education coordinated by the presenter between 1994 and 1995 was sponsored by the Nigerian Conservation Foundation (NCF) and the World Wide Fund for Nature (WWF-UK). It involved over 30 lecturers across the University of Calabar and Lagos (NCF). This was the first comprehensive resource materials for students and teachers of Environmental Education (Inyang-Abia, 1995).

Figure 8: The Environmental Education Book Series



8. The presenter had also used his Editorial positions to groom, mentor and encourage many young academics to grow

intellectually and professionally. The positions include the Editorship of ***West Africa Journal of Educational Research (WAJER) (1997-2012), Literacy and Reading in Nigeria*** (Reading Association of Nigeria (RAN) Journal), ***Journal of Applied Literacy and Reading (JARL) (2004-2006), Journal of Science, Education and Humanities (JOSEH) (2007-2011)*** and ***Journal of Educational Media and Technology (JEMT)*** **(2010-2014).**

9. As the Chairman, Akwa Ibom State Advisory Committee on Education Rehabilitation (2008-2011), the education landscape of Akwa Ibom State witnessed uncommon super-structural, infrastructural and sub-structural transformation during and after my tenure.

10. As the State Chairman of RAN-Cross River (2004-2006) and the National President of Nigeria Association for Educational Media and Technology (NAEMT) (2010-2014) many successful workshops, conferences and seminars in Educational Technology and Environmental Education were successfully executed. The Vacation Reading Programmes organized by RAN during my stewardship yielded many positive results for both parents and their wards in Cross River and Akwa Ibom States.

Between February 26 and March 1 2013, during NAEMT's first South-South Zonal Workshop on Instructional Delivery Skills through ICT Tools organized by the presenter, the importance of the **Clouds** in the teaching and learning processes at all levels of education was emphasized. That workshop was an attempt to close the digital divide between the

Digital Natives and the Digital Immigrants. Unfortunately, some could not take advantage of the opportunity so offered.

Figure 9: Bridging the Digital Divide

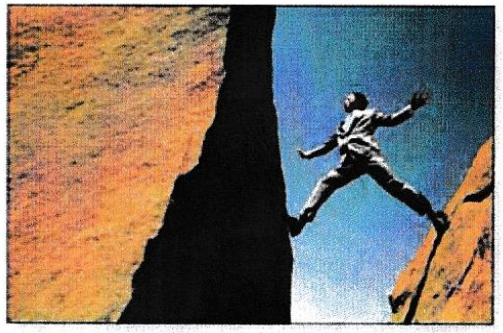


Figure 10: Some Key Personnel at NAEMT Workshop on Digitalization of the Learning Process

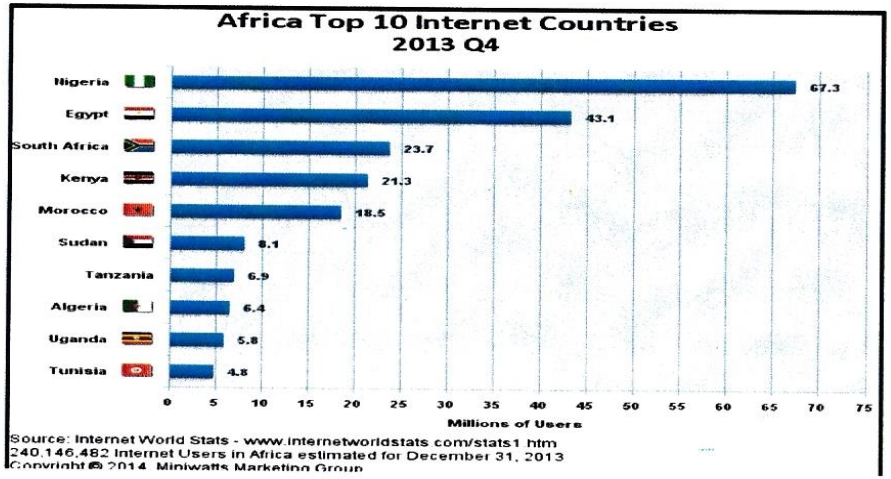
At that workshop, Mr. Chairman and Vice-Chancellor, you regretted that the education sector in Nigeria was not fast nor deeply penetrating enough for the impact of science,

technology and ICT to be felt despite Nigeria' leadership in computer ownership in Africa.

On that note, you advised each academic department of the university to send at least one staff, as a master trainer, for the hands-on workshop. This inaugural lecture that you gratefully approved was designed to re-emphasize that call for students, academics and institutions to key into the Clouds and maximize their potentials.

15. Packaging for the Future

Not all hope is lost. As at the last quarter of 2013, Nigeria continued to top the Internet users in Africa as illustrated below:



Last September, SIDMACH Technologies (Nigeria) Limited collaborated the National Educational Research and Development Council (NERDC) to introduce a new software solution called **NERDC e-Curriculum Portal** under the auspices of the Federal Ministry of Education. This indicates

Nigeria's determination to jump into the Cloud to maximize the available potentials. But the number of teachers and learners aware of it or capable of accessing the portal remains questionable, let alone the right tools and environment. However, it was a bold attempt to hold the bull by the horn.

The following prescriptions may not go down very well with some categories of people but the Cloud matter is a ***do or die*** affair just as it is ***publish or perish*** in the University credo. If we are to make any headway technologically in this nation, the Cloud is available and the Curriculum must reboot to maximize the potentials of the ***Light Kingdom***. Teachers should not fear that the Cloud is taking over their jobs. Rather it is a wonderful opportunity to expand knowledge and skills and explore newer vistas for personal and professional growth and development. For now, we need to:

1. Maximize the potentials already available within the country and prevent brain drain through improved motivation, working environment and conditions of service for all in the education sector.
2. Retrain all teachers at all levels because continued relevant professional development is essential if benefits from investments in education are to be maximized.
3. Close the digital divide and generational gap using varying strategies and all available means.
4. Go paperless after one year of mandatory training; re-training and re-jigging should be a condition for all universities, state and federal ministries, departments and agencies. All universities, state and federal ministries, departments and agencies must push all their routine activities into the cloud. Faculty and departmental boards in universities must mandatorily go paperless so all activities, reports, and minutes should be Cloud-based. In this way most stakeholders can be compelled into the Cloud and our forest will grow greener.

5. Build up Cloud Technologies, their sub-structure, infrastructure and superstructure with urgency. This requires Participatory-Public-Private-Partnership (PPPP) not just paper partnership as is obtaining now.
6. Review the curriculum content and process at all levels triennially to reflect the rapidly changing technological world; infuse e-learning blended learning and m-learning strategies in all courses.
7. Mandatorily build up our blogs as lecturers for display of course outlines, giving and submission of assignments, submission, correction and return of projects, and other necessary information. This can improve on transparency, while checking fraudulent behaviours.
8. Set up and keep strictly to all deadlines for all registration activities in the university, faculties and departments.
9. Integrate digital education (e-learning) strategies into the curriculum starting with blended learning and m-learning platforms. All lecturers can do this without stress. It can update our knowledge level and keep us continually updated.
10. Legalize Mandatory Professional Training for all personnel concerned with education business at all levels of education at the end of which a Professional License Renewal Assessment be conducted.
11. Revisit and legislate on Mandatory Postgraduate Diploma in Education for all persons involved in the instructional process at all levels of higher education. Teachers Registration Council of Nigeria should step this up.
12. Include the number of lecturers with teaching qualification in any department or programme as a major score item in the accreditation requirement and Quality Assurance criterion.

13. Adopt the Computer-Based Examination to check incidence of fraud and other forms of examination malpractice especially in university-wide courses.
14. De-emphasize seminars and conferences but emphasize workshops, Webinars and Teleconferencing.
15. Mandatorily start EE Programme in all institutions of higher learning in Nigeria without further delay to stem the tide of repeated incidence of flood, drought, climate change, Ebola and other environmentally related avoidable disasters. Everybody needs EE. Adopt at the secondary and basic education levels, the infusion strategy as earlier proposed.
16. Set-up technology incubation enclaves in selected universities and towns with focus on generating and duplicating new technologies in various areas of life.
17. Nigerian government, politicians and engineers must rise to the energy challenge. Let there be Light; without which the Clouds in the Light Kingdom cannot be accessed.
18. Step up training courses in Virtual Librarianship because that is an expanding market for the future.

16. Conclusion

Education is the vehicle for sustainable national development, the curriculum is the engine while the teachers steer the vehicle, either directly or remotely. All these can only materialize when the polity allows enabling environment. Communication revolution has moved the world into the Light Kingdom where the Clouds house the ultimate source of information, knowledge and power.

Mind-power rather than man-power must be emphasized by the curriculum now than ever before because knowledge is currently a more marketable commodity with extremely high cash value than most other resources. Light has taken over the

documentation platform, making it more accurate, functionally legitimate, permanent and transferable at lightning speed and minimal cost. Education business must key into the developments of the moment through a functional sustainable structure capable of responding positively to the laws of Curriculum dynamics.

Accepting the Cloud and capitalizing on its capacity is the answer to the major question concerning the preparation of the **Net Gen** for an unknown future. Digital Immigrants must quickly and expertly acquire the Digital language and culture to facilitate their Curriculum rebooting process within the Light Kingdom. For Nigeria, it cannot be sooner than now.

17. Acknowledgements

To God be the Glory; great things He has done and greater things He will do for His people. I will forever be thankful to Him. I gratefully acknowledge my parents and relations for all their support all the time. My Ministers, brothers and sisters at the UNICAL Chapel of Redemption, God will always answer your prayers; your presence is very encouraging.

To my Queen, Dr (Mrs.) Eme Inyangabia and our children: Eme J, Dukeabasi, Dadtoyo, Sitoabasi, Iquomma P, Mr. & Barr (Mrs.) Ikhuoria, Mr.& Mrs. Ikpeme, Ms Idaraobong, Engr. & Mrs. Ekeke, Assoc. Prof & Mrs. Moses Ikoh, Engr. & Mrs. Akanimo Inyangabia, Ms Edidiong Inyangabia (JP) and all our in-laws and grand children, I say thank you and may God reward all your labour of love.

All my friends and colleagues at the University of Calabar and beyond, thank you for always being there for me. My fellow students at UNICAL and beyond, keep your Spirit of Excellence always high and reboot as needs arise.

Of special mention are Prof. (Mrs) Akon Esu who shared her official seat with me in 1984, and Prof. Obinnah Enukoha, my PhD Dissertation Supervisor who inspired me to a logical

completion of the programme, I say may God bless your families.

Professors Ibitayo Agun, Kunle Akanbi, Inanaya Imogie and Awotua Efebo, my mentors and professional colleagues, you are my Living Legends.

I cannot forget Mr. Jim Dunlop and Dr. Donald McDonald of Strathclyde University, Glasgow and late Prof. Ralph Omojuwa of the Institute of Education, UNICAL, for fanning my spark of EE into a huge burning flame. The Vice-Chancellor and his Management Team, UNICAL Senate and the Committee of Deans are gratefully acknowledged for their presence.

Thank you everyone here present.

References

(http://www.be-digital.fr/digital-natives-digital-migrants.asp#sthash.xyTMdvsO.dpuf

(http://www.vanguardngr.com/2014/09/education-goes-digital-sidmach-nerdc-launch-e-curriculum-portal/#sthash.xRb2DNqQ.dpuf).This .(http://www.be-digital.fr/digital-natives-digital-migrants.asp#sthash.xyTMdvsO.dpuf)

http://en.wikipedia.org/wiki/Cloud_computing

http://www.castleberryisd.net/departments/technology_services/bloom_s_digital_taxonomy/

http://www.castleberryisd.net/departments/technology_services/bloom_s_digital_taxonomy/

http://www.techlearning.com/printableArticle.aspx?articleID=196605124

Anderson, L.W., & Krathwohl, D. (Eds.) (2001). ***A Taxonomy for Learning, Teaching and Assessing: a Revision of Bloom's Taxonomy of Educational Objectives.*** New York: Longman,

Churches, A.(2007). ***Educational Origami, Bloom's and ICT Tools*** Retrieved from: http://edorigami.wikispaces.com/Bloom%27s+and+ICT+tools

Churches, A.(2001).BloomsTaxonomy Blooms Digitally http://edorigami.wikispaces.com/Bloom%27s+and+ICT+tools

Fafunwa, A. B.(1974). ***History of education in Nigeria***. London: George Allen & Unwin

Inyang-Abia, M .E. (2014.) Evolutionary Trends of Environmental Education in Nigeria, 1914-2014. A Lead Presentation at the Nigeria's Centenary Celebration organized by NEST at the University of Ibadan, Nigeria. Sept. 24-25.

Inyang-Abia, M .E. (2014b). Health, Medical and Environmental Education in Nigeria: Status, Indicators and the Way Forward. A Lead Presentation at A Broad-based Multi-Sector National Education Summit *Towards a System of Education for Liberation in Nigeria* Organized by Academic Staff Union of Universities (ASSU) in Collaboration with other Organizations in the Education Sector Conference Hall, Top Rank Galaxy Hotel, Utolo District, Abuja.

Inyang-Abia, M. E. (2005). ***Curriculum dynamics and professionalism in teaching: An introduction***. Calabar: MIFAM Services Nig. Ltd.

Inyang-Abia, M. E. (2004). ***Essentials of educational technology: A handbook for teachers and media practitioners***. Calabar: MIFAM Services Nig. Ltd.

Inyang-Abia, M. E. (2001). ***Curriculum technologies for basic education: Methods, media and their utilization.*** Calabar: MIFAM Services Nig. Ltd.

Inyang-Abia, M. E. & Esu, A. E. O. (2004). ***Social Studies: Technologies, methods and media.*** Port Harcourt: Double Diamond Publications

Inyang-Abia, M. E. & Umoren, G. U. (1995). ***Curriculum development and evaluation in environmental education***. Lagos: Macmillan Nigeria Publishers Ltd.

Inyang-Abia, M. E. & Usang, E. (1992). ***Environmental education for teachers.*** Zaria: NIRVANA Publishing Co. Ltd.

Inyang-Abia, M. E. (1991). Crystal-gazing the 6-3-3-4 system: Implications for resources development. ***Journal of educational media and technology 3(1)***, 1-21.

Prensky, M. (2006a). *Don't Bother Me Mom--I'm Learning!* (1st ed.) Paragon House.

Prensky, M. (2006b). Listen to the Natives. *Educational Leadership, 63* (4), 8-13. Retrieved from http :// www . siprep . org / prodev /

Prensky, M. (2003). Overcoming Educators' Digital Immigrant Accents: A Rebuttal. *The Technology Source, 7*(3) Retrieved from http ://
technologysource . org / article / overcoming _ educators _ digital _ immigrant _ accents /

Prensky, M. (2001a) Digital Natives, Digital Immigrants: http://www.marcprensky.com/writing/prensky%20-%20digital%20natives,%20digital%20immigrants%20-%20part1.pdf

Prensky, M. (2001b). Digital Natives, Digital Immigrants: Do they really think different? *On the Horizon, 9*(6), 1-6. Retrieved from http :// www . marcprensky . com / writing / Prensky %20-%20 Digital %20 Natives ,%20 Digital %20 Immigrants %20-%20 Part 2. pdf

World Population Clock (2014). Retrieved from http://www.worldometers.info/world-population/

MY SELECTED PUBLICATIONS

A: BOOKS

Inyang-Abia, M.E., Bioa, I., Enu, D., Unimma, F., Archibong, H. E. & Esu, A.E.O. (2008). ***Social Studies for Primary Schools Book 1***. Calabar: Cross River State Government.

Inyang-Abia, M.E., Bioa, I., Enu, D., Unimma, F., Archibong, H. E. & Esu, A.E.O. (2008). ***Social Studies for Primary Schools Book 2***. Calabar: Cross River State Government.

Inyang-Abia, M.E., Bioa, I., Enu, D., Unimma, F., Archibong, H. E. & Esu, A.E.O. (2008). ***Social Studies for Primary Schools Book 3***. Calabar: Cross River State Government.

Inyang-Abia, M. E. (2005). ***Curriculum dynamics and professionalism in teaching: An introduction***. Calabar: MIFAM Services Nig. Ltd.

Inyang-Abia, M. E. (2004). ***Essentials of educational technology: A handbook for teachers and media practitioners***. (Revised Edition) Calabar: MIFAM Services Nig. Ltd.

Inyang-Abia, M. E. & Esu, A. E. O. (2004). ***Social Studies: Technologies, methods and media.*** Port Harcourt: Double Diamond Publications

Inyang-Abia, M. E. (2001). ***Curriculum technologies for basic education: Methods, media and their utilization.*** Calabar: MIFAM Services Nig. Ltd.

Inyang-Abia, M. E. & Umoren, G. U. (1995). ***Curriculum development and evaluation in environmental education***. Lagos: Macmillan Nigeria Publishers Ltd.

Inyang-Abia M. E., Uchendu, V. C., Anijah-Obi, F. N., Jaja, S. O. & Obi, F. B. (1995). ***Planning and process in environmental management.*** Lagos: Macmillan Nigeria Publishers Ltd.

Inyang-Abia, M. E. & Usang, E. (1992). ***Environmental education for teachers.*** Zaria: NIRVANA Publishing Co. Ltd.

Human Development Indices (HDI) in selected African countries. ***Literacy and Reading in Nigeria 9(1),*** *143-152.*

Inyang-Abia, M. E. (2001). Greening the science, technology, mathematics (STM) curriculum: A synthesis for sustainable development in Nigeria, ***West Africa journal of educational research 4(2),*** *81-86.*

Inyang-Abia, M. E. & Ikpeme, E. E. (2000). Environment and health: The socio-cultural dimension. ***West Africa journal of educational research 3 (1),*** 114-123.

Inyang-Abia, M. E. (2000). Socio-cultural and instructional considerations of universal basic education (UBE) for poverty alleviation programme: Lessons from a correlational study of income level and literacy rate. ***International journal of research in basic and lifelong education 1(2),*** 374-379.

Inyang-Abia, M. E. (1999). Curriculum agenda for poverty alleviation: Focus on human development indices (HDI). ***West Africa journal of educational research 2 (1),*** 16—26.

Inyang-Abia, M. E. (1999). A review of the national environmental education curricula for Nigeria. Their implementation strategies and anticipated challenges. ***West Africa journal of educational research 2(2),*** 152—158.

Inyang-Abia, M. E. (1998). CIPP Approach: Input evaluation of the environmental education programme of the University of Calabar. ***Jordanhill international network for the environment 3,*** 68—71.

Inyang-Abia, M. E. (1998). Agenda 21-based curriculum paradigm for environmental education and sustainable development in Nigeria. ***Ife journal of educational studies 5(1),*** 252-259.

Inyang-Abia, M. E. (1997). Input evaluation of greenness, tools and strategies for junior secondary social studies curriculum in Nigeria. ***West Africa journal of educational research 1(1),*** 84—88.

Inyang-Abia, M. E. (1997). Blueprinting sustainable development for local communities as a function of the green curriculum. ***West Africa journal of educational research 1 (2)***, 193-198.

Inyang-Abia, M. E. (1996). Radical strategies for emancipatory literacy and their implications for the curriculum process. ***Literacy and reading in Nigeria.*** *7*, 103-111.

Inyang-Abia, M. E. (1995). Indices of "green inertia" in sustainable nation building in Nigeria: Some briefs from the *National policy on the environment.* ***Nigeria journal of social studies review. 4(1)***, 81—87.

Inyang-Abia, M. E. (1993). Gender-anxiety interaction on testing and the case of instructional design and implementation. ***Calabar journal of higher education 1(1)***, 73-82.

Inyang-Abia, M. E. (1993). Dimensions of literacy for all by year 2000: Implications for teacher education and media design and production. ***Literacy and reading in Nigeria 6***, 73—82.

Inyang-Abia, M. E. (1992). Cultural dimensions in curriculum materials. A study of Longman Social Studies Series for junior secondary classes. ***Nigeria journal of social studies review 1(1)***, 96 —104.

Inyang-Abia, M. E. (1991). Crystal-gazing the 6-3-3-4 system: Implications for resources development. ***Journal of educational media and technology 3(1)***, 1-21.

Inyang-Abia, M. E. (1989). Promoting peace and national unity through media technology: Some sociocultural responsibilities. ***Journal of education and peace 1(1),*** 115-128.

Inyang-Abia, M. E. (1988). Effects of specific retrievable images (SRIs) on encoding and retrieval behaviour among senior secondary students. ***Nigeria journal of educational psychology 3 (1),*** *262-270.*

D: CONFERENCE PROCEEDINGS

Inyang-Abia, M. E. (2012). Green Economy: Does It Include You? ***A Presentation to mark the Grand Finale of World Environmental Day Celebration*** at Civil Service Auditorium, Uyo, Akwa Ibom State, Nigeria. June 5.

Inyang-Abia, M. E. (2008). Sustainable infrastructural development in schools: Private-Public-Partnership option. ***Akwa Ibom State Infrastructure Summit.***

Inyang-Abia, M. E. & Obi, F. B. (1997). The University of Calabar Environmental. Education Model: A resume. In M.B. Lawal & A.B. Mohammed (Eds.). ***Popularizing environmental education in Nigerian Universities: Proceedings of the National workshop on environmental education.*** Organized by the NCF and WWF. Lagos: NCF: 28-33.

Inyang-Abia, M. E, Oji, G. O. Obi, F. B & Noibi, Y. (1994). ***An information booklet of the Environmental Education Unit***, University of Calabar. Zaria: NIRVANA Publishing Co. Ltd.

Inyang-Abia, M. E. (1993). Local sourcing and improvisation strategies for environmental educational materials. ***Meeting the challenges of environmental education in Nigeria.*** A national conference on environmental education by the Nigerian Conservation Foundation and World Wide Fund for Nature, Lagos. 82, 17-19, March.

Inyang-Abia, M. E. (1985). Planning for instructional resources in senior secondary schools: ***Planning for senior secondary schools: A Seminar/Workshop by the Cross River State Ministry of Education,*** Calabar. 76-94, 7-8 February.

A PROFILE OF PROFESSOR INYANG-ABIA, MOSES EDEM

B.A. (HONS) EDUCATION/GEOGRAPHY, UNICAL
M.A (EDUCATIONAL TECHNOLOGY), UNIFE (OAU)
CFS (ENVIRONMENTAL EDUCATION), GLASGOW
Ph.D. CURRICULUM (TECHNOLOGIES & ENVIRONMENTAL EDUC.), UNICAL
FELLOW OF INSTITUTE OF INDUSTRIAL ADMINISTRATION OF NIGERIA (FIIAN)
FELLOW OF NIGERIA ASSOCIATION FOR EDUCATIONAL MEDIA AND TECHNOLOGY (FNEAMT)
FELLOW OF NIGERIAN ASSOCIATION OF TEACHERS OF TECHNOLOGY (FNATT)

LECTURER:

* *Educational Technology Courses and Programmes;*
* *Curriculum Development, Research and Evaluation;*
* *Information Communication Technology (ICT) Courses;*
* *Environmental Education Courses and Programmes;*
* *Communication, Mass Media and Distance Education;*
* *Geography related Courses;*
* *Social Studies Courses; and*
* *History and Philosophy of Science; etc*

AUTHOR:

* **11 Published books**
* *12 Published book chapters*
* *21 Published Journal articles*
* *6 Published monographs*

CONSULTANT:

* *United Nations Development Programmes (UNDP);*
* *Federal Ministry of Environment;*
* *Nigerian Environmental Study Action Team (N EST);*
* *Nigerian Conservation Foundation (NCF);*
* *Friedrich Ebert Foundation;*
* *Akwa Ibom State Government of Nigeria;*
* *Cross River State Government of Nigeria; and*
* *External Examiner/Assessor to many Universiti es in Nigeria.*

RECENT POST:

* **Provost, College of Education, Afaha Nsit, Akwa Ibom State (2007 to 2011)**

EDITOR:

* ***West Africa Journal of Educational Research (WAJER) 1995 2012***
* ***Journal of Applied Literacy and Reading (JARL) 2004-2006***
* ***Journal of Science, Education and Humanities (JOSEH) 2007-2011***
* ***Journal of Educational Media and Technology (JEMT) 2010-2014***

SPECIALTY:

* ***Instructional Materials Design, Production, Research and Evaluation;***
* ***Educational Technology Programme Design, Implement ation and Evaluation;***
* ***Environmental Education Programme Design, Implementation and Evaluation;***
* ***Teacher Education Programme Design, Implementation, Research and Evaluation;***
* ***Social Studies Programme Design, Implementation and Evaluation;***
* ***Environmental Impact Assessment, Auditing, Monitoring and Evaluation; and***
* ***General Educational Programme Design, Implementation, Research and Evaluation.***

RECENT PUBLIC SERVICES

* ***Chairman,*** **Akwa Ibom State Advisory Committee on Education Rehabilitation (2008-2011)**
* ***Assistant Secretary*** **Committee of Provosts of State Colleges of Education in Nigeria (2009-2011)**
* ***National President,*** **Nigeria Association for Educational Media and Technology (NAEMT) (2010-2014)**

STATUS:

Professor of Curriculum Technologies and Environmental Education; a Practical Born-again Christian to the core and Married to a very beautiful Wife, with children and Grand Children.

BRIEF: Professor Moses Edem Inyang-Abia was born into the Royal Family of Ebu Inyang Abia Obio Unek, a gallant traditional ***Field Marshall*** of his days. Moses' parents, late Chief Edem Udo Akpan Ekpo and his dear widow, Mayen, built a humble Christian home in Ikot Andem Itam, Itu Local Government Area of Akwa Ibom State, Nigeria where baby Moses was born into over sixty years ago as their first surviving child.

His primary education was at the then Church of Scotland Mission School, West Itam (now Presbyterian Primary School, Obong Itam) and later at the then Boys Vocational School (BVS), (now Senior Science College), Ididep. His training at the Presbyterian Teachers College, Ididep opened up wider vistas and a brighter horizon as he made the best overall result in the then Cross River State and in Nigeria in 1971.

His admission in 1976 into the University of Calabar was therefore not surprising to anyone who had closely monitored the astronomical ascent of this ***rising star***. After four years of assiduous studies, the young ebullient Inyang-Abia not only bagged a Second Class Upper (Hons.) Degree in Education/Geography but was also awarded the ***University of Calabar Foundation Scholarship*** which was utilized at the University of Ife (now Obafemi Awolowo University), Ile Ife, to study ***Educational Technology*** His record-breaking exploits also won him at the University of Ife, ***the only Postgraduate Award in the Faculty of Education in 1982/83 academic year***.

Five years after his appointment as an Assistant Lecturer at the University of Calabar, this ***golden fish*** had no hiding place. The **Nigerian Conservation Foundation (NCF)** under the auspices of the **World Wide Fund for Nature (WWF-UK)** spotted out Inyang-Abia for a team of twelve Nigerians to pioneer a major innovation in the Nigerian educational system: Environmental Education (EE). This took him to the popular Jordanhill College, University of Strathclyde, Glasgow, Scotland where his focus was on ***Environmental Education Curriculum for Teachers in Nigeria.***

On return to Nigeria in 1990, by the Grace of God, he initiated and co-authored with Rev. (Dr.) Ewa N Usang, the book: ***Introduction to Environmental Education for Teachers.*** This pioneering text in Environmental Education in Nigeria planted the initial seed for the programme. Based on his Strathclyde project of 1990 and with the support of **NCF, WWF-UK**, his senior colleagues and the University of Calabar administration, Professor Inyang-Abia, pioneered the design and development of various programmes, projects and instructional materials in Environmental Education and Educational Technology at the University of Calabar.

The academic programmes in Educational Technology a nd Environmental Education, Professor Inyang-Abia's pet projects at the University of Calabar have benefitted thousands within and outside the country. As the Coordinator of Environmental Education Unit of the University of Calabar between 1993 and 1996, he ***pioneered and supervised the writing of a series of eleven***

***books on Environmental Education co-sponsored byth e NCF and* WWF-UK,.** This innovative effort involved lecturers from almost all faculties and Institutes in the university including Medicine. This is because environmental matters should involve us all. Many students that have passed through Professor Inyang-Abia are doing well; some have gotten to the peak of their professions, including his current Head of Department and the current Director of Institute of Education who is introducing the presenter now to the audience.

Professor Inyang-Abia has served the University of Calabar in various capacities including such positions as:

i. Departmental Examination Officer for Education Arts, Elementary Education and Social Sciences (1984-1989);
ii. Coordinator, Educational Technology (1992-1995);
iii. Coordinator, Environmental Education Unit, Institute of Education (1993-1996);
iv. Head of Department, Educational Technology (1996-1998);
v. Coordinator, Environmental Education Programme (1997-2000)
vi. Chair, Institute of Education Graduate Committee (2000-2004);
vii. Member, UNICAL Management Board of Center for Research and Documentation (2002);
viii. Coordinator, GSS 1131 and GSS 1132 (2003-2004);
ix. Director, Institute of Education (October 2006- November 2007)
x. Member, Committee of Deans (2006-2007);
xi. Chair, Department of Curriculum and Teaching Graduate Committee (2014)

During his academic career, he has won many laurels and has broken many records. ***(Please savor some of his awards displayed at the e ntrance to this venue.)*** As the Provost of Akwa Ibom State College of Education, Afaha Nsit (2007-2011), by the Special Grace of God and the Favor of the Uncommon Transformation State Governor, Chief Godswill Akpaboio, the jinx of non-accreditation and the plague of non-certification were shattered.

The lost academic culture of the College was restored within the first year of his leadership. The College was also the only one from the South South geopolitical region of Nigeria selected during his tenure for a Tertiary Education Trust Fund (TETFund) transformational award that has brought for the College major infrastructural renovation and academic expansion. As a Youth Leader in his community, he has left lasting legacies in terms of financial assistance to some needy students from his community as well as book and material donations to his community school.

His last two national outings were Lead Presentations at the Nigeria's Centenary Celebration organized by NEST at the University of Ibadan, Nigeria, September 24-25, 2014; and the Broad-based Multi-Sector National Education Summit organized at Abuja, Nigeria by Academic Staff Union of Universities (ASUU) in collaboration with other Campus Unions and Civil Society Groups, 27-31 October, 2014.

Professor Inyang-Abia has travelled extensively, having been to all states of the federation and three continents of the world. He is, by the Grace of God, a Christian to the core. He is happily married to a Princess, Dr. (Mrs.) Eme Inyangabia. They are blessed with many children, in-laws and grandchildren. His major hobbies include reading, writing, conservation activities, religious activities and table tennis. He is a silent achiever.

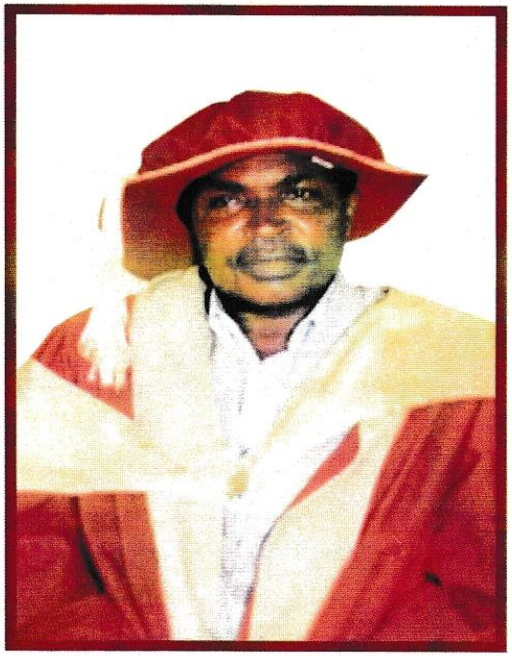
POSTAL ADDRESS: ***P. O. Box 3706, Calabar***

Tel: **+234 803 6722 818; +234 802 3589 435; +234 807 8231 561**

E-mail: ***mecifound2003@yahoo.com ; mossewemm@gmail.com***

website: ***http://meingngabia2015.simplesite.com***

26 November 2014



MOSES E. INYANG-ABIA

(Ph.D; FNAEMT; FIIAN; FNATT)