UNIVERSITY OF PORT HARCOURT

LEARNING IS NOT DIFFICULT BUT CAN BE MADE DIFFICULT

An Inaugural Lecture

By

PROFESSOR CHETA WILLIAMS
BEd. MEd. PhD. (UPH)
Department of Curriculum Studies and Educational Technology, Faculty of Education.

INAUGURAL LECTURE SERIES

No. 188

13th June 2024

University of Port Harcourt Printing Press Ltd.
University of Port Harcourt,
Port Harcourt,
Nigeria
E-mail: uniport.press@uniport.edu.ng

ISSN: 1119-9849
INAUGURAL LECTURE SERIES NO. 188
DELIVERED: JUNE 13, 2024

Designed, Printed and Bound By UPPL

ORDER OF PROCEEDINGS

2.45 pm. Guests are seated

3.00pm. Academic Procession begins

The Procession shall enter the CBN Centre of Excellence auditorium, University Park, and the Congregation shall stand as the Procession enters the hall in the following order:

Academic Officer
Professors
Deans of Faculties/School
Dean, School of Graduate Studies
Provost, College of Health Sciences
Lecturer
University Librarian
Registrar
Deputy Vice Chancellor Research and Development
Deputy Vice Chancellor Academic
Deputy Vice Chancellor Administration
Vice Chancellor

After the Vice Chancellor has ascended the dais, the Congregation shall remain standing for the University of Port Harcourt Anthem.

The Congregation shall thereafter resume their seats.

THE VICE CHANCELLOR'S OPENING REMARKS.

The Registrar shall rise, cap, invite the Vice Chancellor to make his opening remarks and introduce the Lecturer.
The Lecturer shall remain standing during the Introduction.

THE INAUGURAL LECTURE

The Lecturer shall step on the rostrum, cap and deliver his Inaugural Lecture. After the lecture, he shall step towards the Vice Chancellor, cap and deliver a copy of the Inaugural Lecture to the Vice Chancellor and resume his seat. The Vice Chancellor shall present the document to the Registrar.

CLOSING

The Registrar shall rise, cap and invite the Vice Chancellor to make his Closing Remarks.

The Vice Chancellor's Closing Remarks.

The Vice Chancellor shall then rise, cap and make his Closing Remarks. The Congregation shall rise for the University of Port Harcourt Anthem and remain standing as the Academic [Honour] Procession retreats in the following order:

Vice Chancellor
Deputy Vice Chancellor Administration
Deputy Vice Chancellor Academic
Deputy Vice Chancellor Research and Development
Registrar
University Librarian
Lecturer
Provost, College of Health Sciences
Dean, School of Graduate Studies
Deans of Faculties/School
Professors
Academic Officer

DEDICATION

I dedicate this Inaugural Lecture to Abiama Nwakpukpor (Almighty God) who showed me undeserved mercy.

ACKNOWLEDGMENTS

First and foremost on this list is the Almighty God, the creator of the heaven and earth, who for reasons best known to Him made it possible for me to exist on this planet earth. Abiama Nwakpukpor, to you, I will not only bow, but will also prostrate.

Next is the digital Vice Chancellor of this unique University, Prof. Owunari. A. Georgewill, our amiable and digital Vice Chancellor, you are a real blessing to the University. Thanks for making this inaugural lecture today possible. The same recognition goes to the Deputy Vice Chancellor (Adm), Prof. Clifford. O. Ofurum, Deputy Vice Chancellor (Acad), Prof. Kingsley. I. Owete and Deputy Vice Chancellor (R&D), Prof. Iyeopu Siminialayi. I owe you all immense thanks, for making it possible for me to associate with your highly revered persons. To the Registrar, Dr. Gloria. O. Chindah, the Ag. Bursar, Dr. G.W. Obah and librarian, Prof. Helen Emasealu, the humane and simple lifestyles you exhibit have also influenced me in no small measure. The Management of the University, I want to say that I am really grateful for making it possible to associate with your highly respected persons.

I have a catalogue of persons who have contributed in one way or the other to my life, and so will not delve into calling their names on this "Thank You" list. The reason is that as a human, the possibility of omitting an important name is there, and it will continue to haunt me each time I lay my hand on this lecture.

Also, I want to acknowledge all inaugural lecturers of the University. Your catalytic works to a great extent really added

to what I am doing today. Thanks for the academic path you provided us to walk on.

To members of the University Senate, I equally want to acknowledge you all in this my lecture. The useful and robust Senate sessions we use to have also influenced this paper in a great deal.

To members of the University Inaugural Committee, permit me to acknowledge your constructive observations that impacted the quality of the paper. The assemblage of this crop of eggheads is really a right step in the right direction.

To the staff and students of the great Faculty of Education, both past and present, my joy knows no bound. To the past and current Deans, Directors, Heads of Departments and Coordinators, I acknowledge your rich academic and administrative acumen. Also, to my teachers, I owe you immense gratitude and to my contemporaries, our shared knowledge is acknowledged. To my mentees and students, your inquisitive minds influenced my way of life, hence I am always conscious of the reality that the young shall definitely grow.

To my senior friends out there, your supportive role in my life is acknowledged. The Almighty God really used you all for me to be where I am today. I will always remain grateful to you all. To my contemporaries and dear ones, I have no regrets coming in contact with you. Our symbiotic associations have been truly germane with positive results.

This acknowledgement will be incomplete not until my Religious affiliation is put in the picture and my fathers in the Lord given their due place. The Rev Ministers, pastors,

deacons and deaconesses, brothers and sisters of Assemblies of God Church, Nigeria, Ahoada District, Ikwerre South District, Akpor 1 and AG 3, Choba, permit me to greet you all specially. And to the entire membership of the Ambassadors of the Kingdom, my respect for you cannot be quantified.

Finally, are members of my family, both immediate and extended? To the immediate, my dear wife, Mrs Patience Nwaelele Williams and children-the Abiamas, I acknowledge your prayers, and to the extended, I will only thank those who love good things.

PROTOCOL

- The Vice-Chancellor.
- The Deputy Vice-Chancellor Administration.
- The Deputy Vice-Chancellor Academic.
- The Deputy Vice-Chancellor, Research & Development.
- The University Bursar.
- The University librarian.
- Provost, College of Health Sciences.
- Dean, School of Graduate Studies.
- Deans of Faculties.
- Directors of Institutes or Centres.
- Heads of Departments.
- Revered Clergies.
- Distinguished Professors and members of Inaugural Committee
- Respected Traditional Rulers and High Chiefs
- Captains of Industries.
- Distinguished Guests.
- Members of the Press.
- Respected Staff and Dear Students.

TABLE OF CONTENTS

"LEARNING IS NOT DIFFICULT BUT CAN BE MADE DIFFICULT"

Introduction

The Vice-Chancellor, Sir, let me start by saying a simple thank you for making today's special meeting a possible one. This august gathering is a special one, as the business of the day is unarguably an Inaugural lecture. It is a rare privilege in the life of every academic, and I am joyous that today is my turn. Today's inaugural is the second from the Department of Curriculum Studies and Educational Technology (CSET) in the Faculty of Education.

The Vice-Chancellor Sir, two pathfinders of the Field of Educational Technology in Nigeria who incidentally mentored, nurtured, and provided me with the needed academic diet for my professional growth deserve my recognition and acknowledgement. Professors H.I. Dike and I.B. Awotua-Efebo, who were among the founding fathers of the Department of CSET, Faculty of Education of this unique University are such persons. I am happy to be counted as one of their academic offspring.

The Vice-Chancellor Sir and audience seated here today, please note that I will be using the term learners and students interchangeably. The reason is that both terms simply suggest persons wanting to learn a new thing. The same will also apply to; teaching and instructional, the latter is a common parlance in Educational Technology, my immediate constituency. Also, I will be making sufficient use of graphics in this lecture. The reason is simple. I am coming from the background of a field that has a strong affinity with the school of Thomas Didymus (Claretain Pub, 2010). This school holds that there are individuals who cannot be satisfied with what they hear not

until they see, feel and perhaps handle. To such ones, it is only situations that offer such opportunities that can guarantee learning. And so today, I will not only want my audience to hear but as much as possible also see the graphic representations of the entire content of the lecture created or recreated by me, for a lasting memory sake. This is also in line with some of the basic principles of multimedia which my field explores maximally in the bid to facilitate learning.

My dear audience, **the concern** of this lecture is the problem of failure grade that confronts us in our school system. The consequences of F-grade are obvious; depression, frustration, dropouts, suicide, amongst other. While many factors could be adjudged to be responsible, no dispute, however, I am yet to come to terms with how learners who record up to 70% and above class attendance also end up scoring an F-grade at the end of the day. Absentee learners may not be the concern of the lecture, even at that; the ubiquitous presence of technology will have something to offer in that regard. This is not different from the high failure rate associated with some courses and handlers who mere mention of their names alone triggers the over secretion of learners' adrenaline, the emergency hormone. Honestly speaking, it beats my imagination how learners who display passion and zeal for their studies would end up as carryover learners, which compounds their academic woes. The lecture refers to the same learners who were adjudged qualified for tertiary education, having met the admission requirements and participated in both the Unified Tertiary Matriculation Examination (UTME) and Post-Unified Tertiary Matriculation Examination (PUTME). We all know that the two Examinations complement each other, in this admission confirmation process. My distinguished audience, this ugly situation before us is what this inaugural series today sues to

address from the binocular of an Educational Technologist, an instructional designer, and a facilitator of learning.

To the best of my knowledge, the picture above negates my pedagogical perspective and is in sharp contrast with how I think we should approach learning. I have taught courses and recorded zero F grades, and I am sure there are some educators seated here today who can share this same testimony. The secret behind the zero F grade in the courses where I preside as an Examiner is what I intend to share with my audience today. The Vice-Chancellor, this supposed 3-hour lecture shall be summarized in under 40 minutes, with the belief that both the hard and soft-copy are available to the public. My listeners, you will not be exact to conclude that the inaugural lecturer today should be a learners' advocate or a promoter of Examination without failure. Not exact. The inaugural lecturer is coming from the angle that we can make learning simple such that an F grade could be far from our dear and willing learners.

The inaugural lecture today, which is replete with textual representations and graphics as already shared will be addressed under the headings: audience analysis, learning objectives; hard skills; lecture: Must it be lecturing? Also, motivation; technology integration and utilization, the wise use of continuous assessment and evaluation proper shall cover the delimitation of the discourse. The lecture submits that learning can be made simple for our learners, if these independent variables so outlined are given their due place by lesson handlers.

Audience Analysis and Instructional Implications

Beyond class level, class size, average age, sex, entry behaviour and perhaps learners' input competence, audience

analysis represents a deliberate and conscious attempt to decipher the true composition of any given class. The simple meaning is that even in a given class, it does not really suggest that all members will learn the same way. The reason being that the **learning preferences/styles** of members in a class cannot be the same. In other words, no class can be said to be a composition of a homogeneous entity. Therefore, in our pedagogical practice, a thorough comprehension of the real class composition can be achieved when we have the following in view.

Learning Styles: This represents learners' learning preferences. A study by **Williams** and Olele (2010a) on audience analysis, revealed that no class composition can be said to be made of members who learn the same way. **This is a major contribution to knowledge** Hence, it is obvious there are audio, visual and kinesthetic or tactile learners inclusive, even in a given class level (Fig 1).

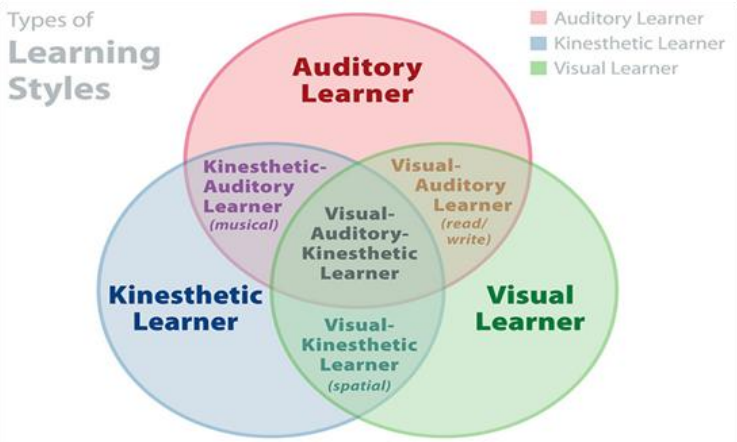

Fig. 1: VAK learning style
Source: https://twitter.com/MrMorrisMuso

Literature is replete with different learning styles models; Kolb (1976) model, recognizes four types of learners; assimilators, accommodators, convergers, and divergers (A_2CD). Assimilators-prefer to learn through lectures, explorations, and conceptual models; Accommodators-prefer to learn through hands-on-activities, presentations, role-plays, and debates; convergers- prefer to learn through games and simulation; while divergers- prefer to learn through hands-on-experiment and constructive feedback. Dunn and Giggs (1995) model, classifies learners based on environmental, and sociological factors; Honey and Mumford (1982), categorize learners as activists or reflectors, theorists or pragmatists. Learners also can be either concrete or abstract or sequential or random (Gregore, 1985; Butler 1988). Felder and Silverman (1998), classify learners on the basis of information perception differences (intuitive) or verbal or information organization and processing (inductive or deductive) or at the rate of learners' progress towards understanding (sequential or global). McCarthy (1990), "4 MAT learning style wheel" identifies; imaginative learners; analytical learners, and dynamic learners; Harb, Durant, and Terry (1993) model has; reflective, concrete, and active. Sims and Sims (1995) recognize; cognitive, behavioural and attractive, while Sarasin (1999) includes; visual, audio, and kinesthetic (VAK); Sadker and Sadker (2003) reported learners who are holistic or visual field sensitive, and thus can establish relationships that exist between things, and the analytic or verbal, field insensitive and thus hardly see the relationships that exists between things. This list is endless and it is certain and confirmed that people do not learn the same way, after our areas of smartness and capability vary.

Multiple intelligence factor: This factor recognizes diversity in human's area of smartness and capability. The position of

Gardener (1983) as in Gardener and Hatch (1989) lends credence to this factor. The multiple intelligence or areas of smartness and capability of a given class member in an iconic representation is as shown in Figure 2.

Fig. 2: Multiple intelligence
Source: https://study.com/academy/lesson

i. Linguistic intelligence. Learners in this category are sensitive to meaning, sounds, and rhythms of words and so have an aptitude for writing and speaking. These learners are potential authors, journalists, lawyers, news casters, writers, and linguists.
ii. Logical/mathematical intelligence. Those in this group have skills related to mathematical manipulations,

discerning and solving logical problems. Such students likely end up becoming scientists or mathematicians.

iii. Bodily- Kinesthetic intelligence. Learners here handle tools expertly and can manipulate objects and even their physical body or structure, and so have an aptitude for physical movement. They are potential surgeons, technicians, athletes, and dancers.

iv. Musical intelligence. The learners endowed with this intelligence appreciate the various forms of musical expressions and can produce pitch and rhythm. We can say they have an aptitude for sound and music. These are the potential musicians, composers, and drummers.

v. Spatial intelligence. They have the aptitude for visualizing things. These learners are good at using models and also can form a mental model of the spatial world. They usually end up becoming sculptors, planners, designers, and painters.

vi. Interpersonal intelligence. These learners respond to the interest and motivation of others, and so have the aptitude for collaborative work. These are the potential social workers and teachers.

vii. Intrapersonal intelligence. Learners with this intelligence have the ability to note one's feelings, needs, strengths, and weaknesses, hence they have the aptitude for work, though independently. Learners in this category would opt for learning on their own. They are potential inventors.

viii. Naturalist intelligence. This group is generally good in concept formation, classification, and naming. They are also sensitive to nature and the world as a whole. The naturalist learners are the future taxonomists, trado-medicals, environmentalists, and biologists most likely.

ix. Existential intelligence. This represents sensitivity to human existence, such as the meaning of life, how we came to be, and what happens after death. Religious persons, philosophers, psychologists, et cetera, are typical examples.

Culture: Anthropologists hold that culture is a way of perceiving, believing, evaluating, and behaving (Goodenough, 1987). Culture is a blueprint that determines how we think, feel, and react in our immediate or another environment. Erickson (1997), maintains that our culture is in us and all around us just as the air we breathe. So, we can say that man is an embodiment of his culture. It differs from from place to place and among people (Fig 3).

Fig. 3: Cultural diversity.
Source: https://web.facebook.com/IgboSocialMedia

Thus, in cultural diversity, certain concepts are crucial; cultural relativism, cultural pluralism, cultural borders, biculturalism and multiculturalism. Cultural relativism holds that never judge another man until you have walked a mile in his moccasins. Simply put, hold your blame until you have found yourself in the person's shoes. The principle of CR is for one

to see another culture as if one is a member of that culture, which is, wearing the other person's eyes in viewing the world. Cultural pluralism on the other hand allows two or more distinct groups to function separately without requiring any assimilation of one into the other. Cultural borders themselves are a social construct that is political in origin and involves differences in rights and obligations (Erickson, 1997). Different cultural borders exist defined by ethnic, religious, socioeconomic, language, or dialect factors. Biculturalism and multiculturalism accommodate individuals who operate successfully in two or more different cultures and across cultural borders, uninhibited and unhindered.

Religion. In the Nigerian context, the dominant religions are; Christianity, Islam, and Traditional (Fig 4).

Fig. 4: Religious Diversity.
Source: https://guardian.ng

Individuals from these three religions could be members of the same school or class. Even within a given religion, various

sects abound. In Christianity, for instance, there are; Catholicism, Protestantism, Pentecostalism, Witnesses, and so forth. The groups continue to subdivide, hence we have different kinds of worshipers that have turned the school or class to a meeting point of individuals from different religious backgrounds.

Socio-Economic Status (SES). Students in the class come from different socioeconomic status backgrounds, especially in the local or less elite schools (Fig 5).

Fig. 5: Socio-economic Status.
Source: https://www.forbes.com, web.facebook.com/ONETOPMEDIA

Socio-economic feature tends to measure the economic condition of the parents of students. SES serves as a composite

of the economic status of a family or unrelated individuals based on; income, wealth, and account. Closely related to these, are wealth and power, which also are strong indicators of an individual SES (Gollnick & Chinn, 2002). These five determinants of SES do not exist in isolation, rather they interrelate as one determinant influences the other. An income is the amount of money an individual earns in a year in wages or salaries. The distribution of family income in Nigeria shows that families do not earn the same income. So it is obvious there is income inequity in the society man dwells. Wealth on the other hand adds more to income as it covers not just income but includes the amount of money that accrues from investments, land, and other holdings. Here, we are dealing with a family's savings accounts, insurance, corporate stock ownership, and property. In the view of Gollnick and Chinn (2002), wealth provides a partial guarantee of future income and has the potential to produce additional income and wealth. Occupation in a decent society could be a good determinant of income. Parental occupation preferences are not the same. The parents of our students are not in the same trade but in different walks of the economic sector. Some parents of students in the class are holders of no certificate, perhaps craft men, primary six, school certificate holders, diplomas, Nigerian Certificate in Education (NCE), and degrees of various sorts. Finally, the power that individuals or parents of our students exert in society is never the same. There are parents in authority who play a prominent role in governance, though the level of this governance differs. Parents of students could be policymakers at the National, state, local, or community level. One thing that stands tall when we discuss SES, is that in a class, very rich, rich, poor and very poor or indigent students are members.

Exceptional: In this sub-class, we consider the fast learners, average and slow learners (Fig 6). The choice of colours here is deliberate. It will make more meaning to us when we relate them to what they represent in traffic light situation.

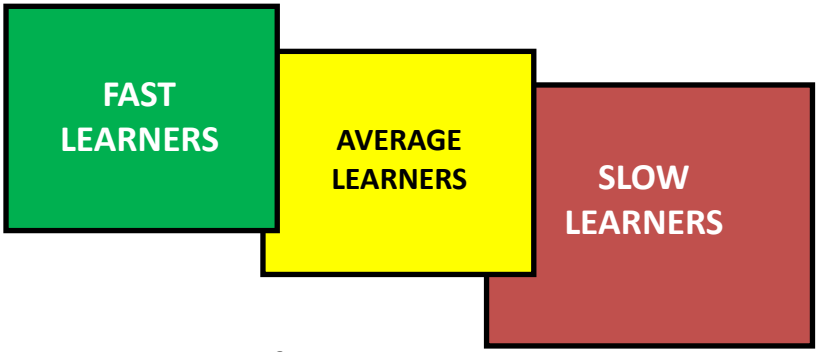

Fig. 6: Categories of learners

This is so because the term includes children who experience difficulties in learning and children whose performance is so superior that modifications in curriculum and instruction are necessary to help them develop their potential. In the same reasoning, Harward (2000), has it that exceptional, is an inclusive term that refers to students with learning behavioural problems. Thus, in a typical school, there could be exceptional micro cultures of students; individuals who are gifted, mentally-retarded, visually or auditory impaired, and individuals with physical and health impairments. The gifted display rare talents, and thus their achievement rate is very high, than do the average and slow learners which include the focus of this discourse.

Instructional Implications

The treatment of a given class level as a composition of a homogeneous entity may not be in the overall interest of learners with varied learning preferences. How does a visual

or tactile learner, for instance, benefit from a lecture that favours audio learners? This is an instructional flaw that can rightly be addressed by a multi-instructional package – MIP, an instructional package that accommodates alternative learning approaches; discovery, discussion, practical, laboratory, inquiry–based, amongst others. Such provisions obviously will check the shortcomings associated with lectures, the predominant mode of content delivery in our Ivory Towers of today. Thus, there is the need to ed-emphasize lecturing, which resultant effect is the usual cognitive overload, due to over usage of the auditory channel. The Table 1 below summarizes the implications.

Table 1: Instructional Implications

	Audience Analysis	Implications
1.	Learning styles/ Multiple Intelligences	MIP (Multi Instructional Package), de-emphasizing lecture, tolerance, patience, friendliness, and contextual learning.
2.	Culture	Wise use of examples, respect for other cultures, objective assessment.
3.	Religion	Wise use of examples, respect for other religions, objective assessment.
4.	Socio-Economic Status	Planned repetition, tolerance, patience, objective assessment.
5.	Exceptional	Cooperative learning (Jigsaw I & II)

Some might argue that a placement examination like the Joint Admission Examination may have addressed the multiple intelligence factor. This is not wholly true, after all, we still find persons who excel in life outside what they studied at school. Multiple intelligence factor calls for consciousness, tolerance, patience, and a display of friendliness while dealing with our learners, an aggregation of scientists, potential authors, athletes, composers, surgeons, social workers, potential inventors, and environmentalist, all in one class.

Insensitivity in the use of examples that are cultural bias and their attendant consequences can be counter-productive to learning. This then calls for a wise use of examples, if the culture of a people must be referred to in a given lesson.

The implications are almost the same while dealing with religion or even sects. Insensitively to this all important factor, will be doing more harm than good in any instructional setting. We do not need to offend or impose our beliefs on our students or attempt to relegate theirs to the background. In a nutshell, the classroom cannot take the place of a worship centre, and it should not be encouraged in any way. Where we do, herein lies another flaw that can impede learning of someone to a reasonable extent.

The VC Sir, some students attend lectures not having breakfast and may not be sure of lunch, an overt indicator of parental SES. This is just a typical instance. As such, a student could be physically present in a class but wondering thought and absent-mindedness hold sway. This makes planned repetition an essential element in content delivery and avoidance of the use of derogatory remarks on our learners for failure to answer a question in the class, totally unacceptable. Also, may the socioeconomic background of our students have no voice even in their assessment? The reason is that any assessment that is SES sensitive, cultural or religious bias is a flawed one ab intio and defeats the purpose it is supposed to serve. I shall leave this aspect of this lecture for another day when another opportunity shall offer itself.

Exceptional, in its true meaning, calls for the promotion of collaborative and cooperative approaches to enhance lesson delivery. Provisions should be made that will enable members of a class to cross-pollinate and cross-fertilize ideas. The Jig-

saw (1 & 11) is a right approach in this direction. Under this arrangement, students gain maximally from two groups; the home and expert, and assessment could be either on individual or group basis (**Williams,** 2000 as in **Williams** & Olele, 2010a,b).

Learning Objectives, Kinds and Essence

Learning objectives represent another core component of every lesson plan that guide the delivery of any given content. Very unfortunate it is common to observe that while we are familiar with lecture note, little or no attention is paid to lecture plan and here lies the missing link in what we do in the class. And when little or no attention is paid to the planning of a lecture, this indispensable component, LO is never given its due place (Table 2).

Table 2: The Missing Link

WHAT?	HOW?
LESSON/ LECTURE NOTE PRESENT	LESSON/ LECTURE PLAN ABSENT *LEARNING OBJECTIVES

Learning objectives, behavioural objectives, performance, course, lesson objectives are interchangeably used to represent what specified learners supposed to achieve, having been exposed to a unit of lesson within a given time frame. Instructional objectives are best written in concise, clear and unambiguous verbs, so that they can be measured with ease. Learning objectives shall be discussed under; two models, Bloom's domains and Anderson's reversed version. The cherish work of Arshavskiy (2013), a handy resource, will influence this segment in no small measure.

There are two pronounced models that have influenced objectives statement over the years and are still relevant till date. They are:

The ABCD model

Audience: These are beneficiaries of a course or subject. Students offering a given course or class membership aptly constitute a given audience. An audience is programme dependent, hence, students, apprentices and trainees, could constitute the audience of a given programme.

Behaviour: The behaviour element of the objectives should state what learners should be able to do to describe the behaviour. When writing behavioural objectives, the use of use such vague verbs as; know, appreciate, understand for they are not measurable and observable should be avoided. Instead, we are advised to consider using action verbs such as; apply, identify, and explain, distinguish, draw, paint, solve, and the like.

Condition: Objectives should include the situation under which the activities or tasks can be performed.

Degree: The last element of meaningful objectives is degree. It is the level at which learners must perform the spelt out activities or task without or with minimal error.

The SMART Model

This is another approach to writing learning objectives: The model focuses on the result rather than the activities, and also allows learners to measure their own successes. The mnemonic stands for: specific measurable, attainable, relevant, and time-bound.

Specific: Objectives should be clear and precise, stating the knowledge or skill learners need to demonstrate as overt evidence that learning has taken place.

Measurable: It focuses on the evaluation standards and includes some type of quantifiable measurement or parameters.

Attainable: Every lesson has a given period allotted to it and, so, objectives should be phased and time-driven.
Relevant: It emphasizes the essence of the lesson and clarifies why a thing should be done.

Time-bound: It projects the span when something should still be done.

Bloom's Taxonomy
Any discourse on learning objectives today will be incomplete without reference to the works of Bloom and his mentee, Anderson.

The educational psychologist, Bloom, identified three learning domains on which learning can be effectively anchored. These domains or taxonomy of his behavioural objectives include:

a. Cognitive Domain
This emphasizes content knowledge and that helps our target audience acquire new skills and abilities. There are six levels in this domain. The lowest level is knowledge, and the highest level is evaluation. A simple description of these elements are represented here.

i. Knowledge: Being able to recall applicable knowledge from the memory, mostly short term. Examples: define,

identify, label, list, name, recall, recite, are typical examples.

ii. Comprehension: This describes being able to construct meaning from both written and oral, including graphical messages. Examples: convert, distinguish, estimate, explain, summarize are some examples.

iii Application: Represents able to apply previous knowledge to real new situation. Examples: to compute, demonstrate, develop, organize, solve, use, are typical examples.

iv. Analysis: This describes the ability to put together or combine the elements learned in a lesson to produce something completely new. Examples: to differentiate, illustrate, infer, outline, relate, amongst others.

v. Synthesis: This is the ability to put together or combine the elements learned in a lesson to produce something completely novel. Examples: to categorize, compose, create, formulate, predict, and produce, falls into this category.

vi. Evaluation: This is being able to judge or suggest based on defined criteria. To compare, contrast, criticize, justify, support, are typical examples.

b. Affective Domain

The affective domain includes feelings, emotions, motivations, and attitudes. There are five categories in this domain, and there are action verbs that describe such learning outcomes. The receiving level is the simplest behaviour and, characterization by value, the most complex.

i. Receiving: This is being aware of something in one's environment. Typical examples include; ask, attend, control, listen, follows, and points, amongst others.

ii. Responding: It represents showing new behaviour as a result of experience garnered. To follow, obey,

conform, perform, participate, practice are some examples.

iii. Valuing: This depicts showing commitment such as; argue, debate, and organize, share, proposes.

iv. Organization: This refers to infusing a new value into an already existing set of values. Alter, balance, defend, arrange systematize, theorize are examples.

v. Characterization by value: Acting regularly with the new value represents characterization by value. In other words, to internalize the process of involvement such that it becomes part of an individual's life. Acts, displays, exhibits, modifies, manage are some examples.

c. Psychomotor Domain

The psychomotor domain includes; movement, coordination, and motor skills which can be developed through constant practice. The psychomotor domain consists of seven sub-categories, with perception, the simplest behaviour; and origination, the most complex.

i. Perception: This is being able to use sensory cues to guide motor activity, such as; choose, detect, Isolate are some verbs that fit here.

ii. Set: It is the mental, physical, and emotional readiness to act such as; display, explain, move are some verbs under set.

iii. Guided response: This attempting the physical skill such as to; copy, follow, react are some essential verbs.

iv. Mechanism: It represents learned responses of a physical skill become habitual such as to; assemble, construct, fix aptly fall under this category.

v. Complex Overt Response: Skillful performance of physical activities is the same meaning of complex

response such as to build, display, grind, are some examples.

vi. Adaption: Modifying movements for special situations, defines adaption such as to; adapt, alter, change are some examples.

vii. Origination: Creating new movement patterns to fit a specific situation, is a display of origination such as to; arrange, combine, and compose are some useful examples.

Revised Bloom's Taxonomy

Anderson, Bloom's mentee, made some slight observations on his mentor's classifications: changed of sub categories from noun to verbs form and also in rearrangement as shown below.

Table 3: Revised version of learning objectives

Creating
Evaluating
Analyzing
Applying
Understanding
Remembering

i. Remembering: it describes being able to recall, recognize or retrieve information, and learned materials. To define, duplicate, label and list are some examples.

ii. Understanding: Here, the learners should be able to explain, and discuss ideas and simple concepts. To discuss, explain, select, recognize, and report are typical examples.

iii. Applying: This is being able to use knowledge in new situations, such as applying concepts to simulations or procedures, are some useful verbs to apply. Also, to

interpret, operate, solve, dramatize, carry out, choose, diagram, execute are some useful verbs.

iv. Analyzing: It means being able to break materials or concepts and being able to separate things into component parts. To break down, appraise, critique, contrast, distinguish, differentiate, examine, find, illustrate are good verbs used here.

v. Evaluating: It simply means being able to make judgment about materials, concepts, or ideas. Such words as; defend, appraise, argue, categorize, compare, conclude are some wise verbs.

vi. Creating: This represents being able to combine elements to form a new meaning. Ability to design, construct, assemble, categorize, combine, invent, reconstruct, et cetera, are some useful verbs.

However, there are other forms of learning objectives categorization in literature. The terminal and enabling objectives are such ones. Terminal objectives describe what the learners are expected to be able to do by the end of the course. The focus is mainly on the result and not the process. On the other hand, enabling objectives support terminal objectives. They define the skills, knowledge, or attitudes learners must obtain to successfully complete terminal objectives. Enabling objectives are more specific than terminal.

The depth of learning objectives re-echoed in this paper is a testament to their significance in learning. For any lesson to have a bearing and able to move the learners from an undesired state to a desired state, herein lies their relevance. It is because they are not given their due recognition and place in an instructional process that is the reason we have evaluation not tied to any objectives. This demands that while we develop our

lesson/lecture notes, courtesy also be hooves on us to have a plan on how to handle the lecture and a key component of such plan is learning the objective element. At this point it will be wise to distinguish between the terms; lesson/lecture note and lesson/lecture plan, as both do not mean $\bar{x}$ the same thing rather are complementary to each other. The former is the detailed explanation of the various concepts and body of knowledge contained in each lesson/lecture, with the students as main beneficiaries. On the other hand, the answer to the question on how a lesson/lecture should be taught is been addressed by the latter, with the teacher or lecturer as the principal beneficiary.

Generally, when learning objectives are defined and stated using appropriate verbs, it is obvious they can be measured at the appropriate time and with ease. Most importantly, they influence assessment and evaluation and allow examiners to focus on the objectives that guided the lecture/lesson from day one to the close. And because they define the gap between where the learners are and where they should be within the duration of a lesson, their non-inclusion leaves us with a huge flaw in what we do in teaching and learning.

Pedagogy Hard skills

There are basic skills peculiar to each discipline or profession and in pedagogy, the mastering, and wise application of such skills can guarantee effective learning. The attainment of desired objectives can be assured where such basic hard skills as; set induction, reinforcement, teacher movement are cardinal in the learning process. The same is true of; interaction, pacing, silence, non-verbal communication, the use of examples, planned repetition, questioning skills and closure, amongst other hard skills.

Set Induction: The textual version of a recorded maiden lecture in a 300.2 level course is as illustrated below.

> "This course is a difficult one and so you must be very serious and don't say I have not told you. If you think that I am joking, watch out to see the number of carryover we have in the class. So you must not joke with me in any way. To be forewarned is to be forearmed. The course outline is before you and we are going to start with the first topic. Take down notes"

The quotation above, cannot represent a good way of lesson presentation, because we can deduce the learning outcome from this maiden contact. Without any study, one will be right to conclude that lesson handlers in this category are only interested in F-grade and not how to make students learn in order to pass. This is what the skill of set induction strives to eradicate. It is the pedagogical skill that aims at presenting a lesson in an interesting, appealing and meaningful way right from the beginning of the class. It strives at making learners have a clear picture of the relevance of the lesson as it seeks to connect new knowledge to previous knowledge. Furthermore, it is also an attention-gaining skill. Its significance in learning, is corroborated by its prominence in virtually all instructional models in literature.

Attention-gaining devices include; stories of relevance, a review of previous lesson, creating funny scenes, contextualizing learning and making objectives known to the class. A thought-provoking question can also be used to anchor a teacher's set induction. The idea is to whet the appetite of the class for a result-oriented session: It places learners in a position of readiness to learn, and thus is a learners-friendly

skill. In this instance, the relevance of schema, assimilation, equilibrium, zone of proximal displacement and scaffolding, amongst others readily come to bear.

Schema represents a mental block of defined shapes and slots. Assimilation is possible where novel knowledge matches existing schema. And where different, adjustment of existing schema is the rule or creation of an entirely new one. When there is assimilation, equilibrium is said to be present and disequilibrium is the case where assimilation is absent. The ability to discern between what learners can do and what they cannot do but have the potential to do if aided by a more knowledgeable other (MKO) summarizes the zone of proximal development (ZPD) construct. Scaffolding, on the other hand, recommends step-by-step support of an instructional approach from the simplest to the most complex, in agreement with the spiral curriculum spirit. The tie between ZDP and scaffolding is said to be an indisputable one. Thus, there should be a corresponding link between ZDP and scaffolding. All these have to be sustained from the beginning until the entire objectives are achieved.

Reinforcement

Naturally, when we are applauded for a job well done, there is that tendency to maintain the same feat so as to earn more praises. This is what reinforcement sets to achieve in an instructional setting. The use of derogatory comments, abusive and foul remarks and presence of other discouraging words do not align with the purpose of reinforcement.

Various forms of reinforcement could be used in the class to impact learning; positive, activity and gestural. Token, material, proximity, and contact are other forms of reinforcement that should facilitate learning.

- Positive: A learner is praised for a job well done to increase a desired behaviour.
- Activity: This is the reason we clap for a student for doing the right thing.
- Gestural: Facial expression when a student is doing the right thing is commendable.
- Token: The good remarks on workbook for instance conveys approval for a task well done.
- Material: This could be in the form of material gifts as a sign of appreciation of an excellent response in a class.
- Proximity: Naturally, we get attracted to an exhibition or project that is appealing.
- Contact. A handshake alone signals appreciation for doing something right.

Punishment
This is a measure applied to discourage or reduce an undesired behaviour. However, it does not accommodate the use of derogatory remarks or bullying our learners.

Teacher Movement
This checks everyone in the class, those on the front and back rows inclusive, and distributes attention equally.

Interaction
The entire class is engaged and feedback is explored, structured chaos is present for optimal achievement. Here, a lively class session is the focus.

Pacing
Vary the speed and tempo of presentation, it could be high or low. A moderate one is ideal, depending on the situation.

Silence
The introduction of pause or a deliberate and sudden break in communication, especially when rowdiness or noise is the case, could serve as an attention-getting measure.

Communication
It could be verbal or **non-verbal.** In the former, the verbal words or audio is the rule. In the latter, eye contact, facial expression, body motion, head, body posture and the pent dactyl do serve one purpose or the other in a learning process.

The use of examples
The skill prescribes how examples can be used to clarify concepts and ideas. It could be deductive or inductive. In the former, examples are drawn from a theory or generalizations, and the reverse is true of the latter.

Planned Repetition
The interval of application defines each subclass of this skill. It could be simple, in which case no time lag exits on its application. It is spaced, meaning, it occurs after some activities in the class and cumulative when some essential points should be noted. Finally, repetition is massed when a summary of the lesson is done, without introducing any new concept for the day.

Questioning
This skill comes to bear if we must achieve the purpose of instruction. There are basic principles of this skills. For instance, questions should be posed to the entire class and not to a particular individual. Also, students should always be given opportunities to ask questions during lessons. And in all, teachers should never lay claim to knowledge so that they do not provide learners with a wrong answer. There is also the

need to vary questioning tones; oral, written and practical as well as the integration of various forms; lower order, higher, order, probing and divergent. However, the learning objectives should drive each process.

Closure

Learners shuffling their feet on the floor, shouting time up and when we experience some sort of uncontrolled noise, should signal that no learning is taking place any longer. We should not allow our class come to this point. A class should come to a close while expectation is still high and the lesson still interesting and being enjoyed by the class (**Williams,** 2012). Film producers deploy this skill maximally.

The hard skills, ranging from reinforcement to closure, amongst others and as seen in this paper, when fully deployed should guarantee a lively classroom, known for teachers-students' activities. The onus lies on the teacher to know the appropriate moment of application of each of these skills and for what intent. After all, a learning environment has to be learner-friendly, if making learning simple is our primary focus.

Lecture: Must it be lecturing?

The VC Sir, in Art of Teaching, an undergraduate course in Education; different teaching methods are common: lecture, discussion, demonstration, laboratory, workshop, discovery, inquiry-based, science process skill, et cetera. Ironically; what has made the lecture method gain an undue advantage over others may not be in the overall interest of learners in the real sense. In the lecture method, the lecturer reads from a prepared note and at times offers explanation of the read, a delivery mode that provides no meaningful experience that should aid learning, but unfortunately, it has become the predominant

method of content delivery. The lecture method is a didactic, a talk-and-chalk mode of content delivery that favours audio learners mainly. It is "teacher-centered" a kind of teaching approach that promotes rote learning and encourages regurgitation of facts. Characteristically, the method makes students active listeners, but passive learners. In the lecture method, the teacher is the alpha and omega of knowledge, the sage on stage who stuffs and spoon-feeds students with knowledge. The lecture method being examination-driven is targeted at content coverage, without paying adequate attention to gained knowledge. And because it is audio learners sensitive, it does not cater for the other categories of learners, already identified in this discourse.

In the lecture method, a lecture note is handy, prepared by the lecturer and for students' consumption. And as it is textual in nature, it fails woefully in offering students the rich learning experience that should facilitate learning. It promotes passive learning and relegates active learning to the background. Active learning is assured when opportunities that support students' engagements, participation and involvement in the learning process are guaranteed. After all, an old Chinese quotation has it that, "I hear and forget, I see, and I remember, and I do and understand"

A fundamental question posed here is how do we expect utmost performance on the part of our learners when our content delivery approach is centred on the lecture method? To cater for the inherent deficiencies associated with the lecture method which favours a single category of learners as already shared, this lecture justifies the practice of bonus marks across board and that it should be seen as a right and not a privileged of our learners. The reason is that our learners cannot be made to pay for the instructional flaws that are entirely not theirs.

They ought to be compensated for failure to provide them with needed opportunities that should have guaranteed learning.

On the alternative, the position of this discourse is that there is the need for us to de-emphasize the didactic or talk-and-talk content delivery method. We should also learn to explore other teaching options and innovative approaches to the fullest; discussion, demonstration, discovery, contextual, flipping the classroom, project-based method, amongst others. Excursion, on-the-site learning, and field trips should be given their due place. There is also the need for us democratizing teaching so as to be flexible in our teaching and that teaching must not only be in the classroom, workshop or laboratory. Various sites, places, and community-based resources that offer a rich learning experience should be explored to the fullest. When emphasis is shifted from the teacher at the centre stage of learning and replaced by the learner, this suggests active engagement and involvement.

In a study on the flipped classroom, for instance, which is an inverted classroom, a kind of technology-mediated classroom where class activities are done at home and vice versa. In a study we carried out on a flipped versus a conventional classroom, it was obvious that the academic performance of mathematics students exposed to the former was more that than their conventional counterparts. In the study, students that had the flipped classroom experience had a mean value of 28.60 as against their conventional counterparts with 16.62 mean value. Also, a t-cal of 11.25 as against a t-crit of 2.02, $\alpha = 0.05$, attests to the superiority of this approach over the traditional class. This study shows that when learning is student-centred, that learning is assured than a teacher-centred approach to learning (Charles Ogan & **Williams,** 2015). This

is the true meaning of a paradigm shift in instruction**, another major contribution to knowledge** as can be seen below.

Fig. 7: Paradigm shift in instruction
Source: https://www.freepik.com

The Fig 7 above has it that learners active involvement in a learning process signals a learner-centred approach to learning. The reason is that defined learners' activities, complementing that of the teacher will guarantee meaningful learning. Therefore, what learners should do; before, during and after a class for learning to take place should be enshrined in a detailed plan. This is how to go about deploying all the other teaching methods to use. Let them not only be mentioned but deployed if this paradigm shift must be sustained in our class.

As already shared, the exalted position and preference accorded lecture and its derivative lecturer deserve a comprehensive look so that we do not function under the operational influence of the same. This is what makes a paradigm shift an inevitable option; from the teacher-centred to learner-centred approach. In the former, the teacher is at the

centre stage of learning, the sage on the stage, while in the latter approach, students take the centre stage of the learning, while the teacher serves as a guide by the side, facilitating learning. Thus, an instructional process that relegates learners to the background and allows the teacher to occupy the centre stage is bound to make learning a difficult task (**Williams,** 2002, 2006a; 2008; **Williams** & Olele, 2010b).

Motivation, Models and Instructional Implications

To start with, what is motivating when the mere mention of the name of a lecturer triggers fears on the mind of learners? No wonder, students willingly and freely attend some lectures, while other set of lecturers experience scanty attendance in their classes. Ironically, the same set of lecturers complain of students not attending lectures.

Motivation as commonly used signifies a driving force, a kind of stimulus, an incentive, or interest and spurs, to achieve a goal or attain or reach a target. This thinking is in consonant with the tripartite components of motivation; direction, effort, and persistence. In direction, the emphasis is on where a person is trying to be. In effort, it means how hard a person is trying to be there and persistence is concerned with how long the person keeps trying (Arnoid, et al, 1991). Motivation is a goal directed behaviour that means, the expectation is that a course or action is likely to lead to the attainment of a goal. Motivation is thus a value-oriented concept. It is value-oriented as action is likely to satisfy one's needs, wants and aspirations.

Motivation broadly speaking could be intrinsic or extrinsic. Intrinsic motivation is a reward independent kind of motivation, as it not a function of anticipated reward. A student may have the habit of being punctual to class, reading

novels, dancing, playing games or even playing instruments just for the satisfaction derived. This is the basis why it is said that intrinsic motivation is based on the need to be competent and self-determined (Deci & Ryan, 1985). In a study about younger students on intrinsic motivation and the process of learning, it has shown that contextualizing materials rather than abstract presentation increases the intrinsic motivation of students.

Extrinsic motivation as the name implies is reward dependent, so expected reward is responsible for exhibited action or response. So this is the type of motivation that is externally influenced, as action is dependent on reward that will accrue from such action. Studying hard to pass exams, answering question to earn showers of praises and delivery academic papers to attract encomiums are manifests of extrinsic motivation. So, extrinsic motivation comes into play when a student is compelled to do something or act in a certain way because of external factors.

However, it must be noted that both forms of motivation (intrinsic and extrinsic) are not mutually exclusive, as they co-exist in a teaching and learning process. A student might be interested in a lesson at the same time studying the lesson to excel, so they are not really distinct but mutually co-existing.

Models and instructional implications

1. **A Two-Factor model**.
We can leverage on the provisions of this model by Human Resource and Organization Management to improve on what we do in the classroom. The two factors identified in this model are; hygiene factors and motivators and that while the former leads to job dissatisfaction, the latter leads to job

satisfaction (Herzberg, et al, 1957). In HR & Organizational Management, we are dealing with workers but in learning, we are talking about learners, and so we can conveniently replace workers here with learners. Unfair treatment, abuse, use of uncomplimentary and derogatory remarks, bullying and the security of our learners not guaranteed by the teacher could trigger dissatisfaction. On the other hand, learners would be satisfied and fulfilled if their roles and responsibilities are defined, achievement, accomplishment and independence assured and inter-personal relationship promoted.

Therefore, in instruction, we should be conscious of the fact that the learner is a person and be treated as such. Let us ensure that we explore on the gains of these motivation factors if learners will earn satisfaction in what they are learning. And as much as possible avoid the presence of such hygiene factors that will impede learning.

2. ARCS model

This is attributed to Keller (1987) and the acronym stands for (A-attention, R-relevance, C- confidence and S-satisfaction). In a study by **Williams** and Olele (2013), the result showed that the presence of these elements in an instructional design favoured meaningful learning, **another contribution to knowledge.**

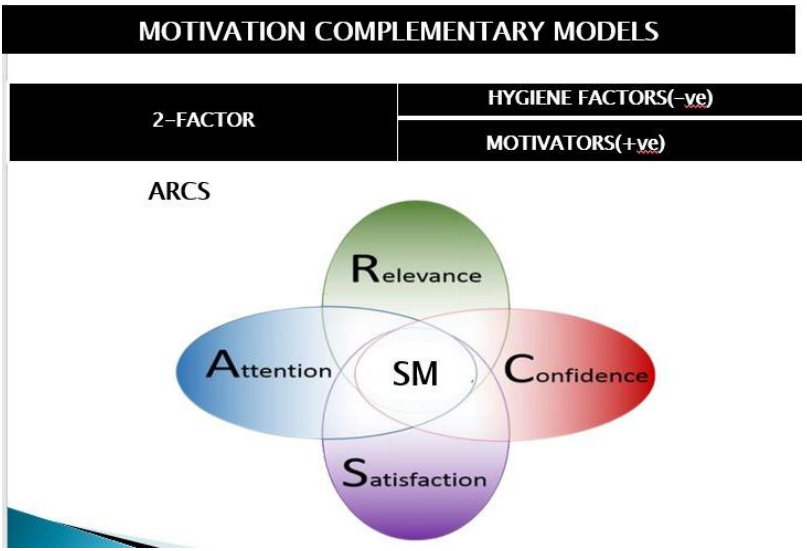

Fig. 8: Students' motivation elements.

i. Attention. Rapt attention on the part of learners and its sustenance is essential in every instructional process. The teacher has to ensure that they do everything possible to ensure that no split or divided attention confronts the learner. Wise use of set induction could be a potent strategy to catch the attention of learners while intermittent use of other teaching skills; reinforcement, stimulus variation, participation and interaction, questioning skills, and others would also keep students' mind on focus. The class should be known for activities both teachers' and learners' activities as to also sustain the needed attention. Distractions and actions that distort should be discouraged. Activities and interactions that have relationship with the objectives of the lesson should be encouraged. On the part of the teacher, use of relevant and related stories, other attention-getting devices and wise use and familiar examples should be the

norm. While the learner should be encouraged to listen, ask and answer questions, handle tools, observe and comment during a lesson. The learners should be an active participant in the teaching/learning process.

ii. Relevance. Let the learners see the worth and usefulness of what they are learning. That is, they should see to the utility value of the contents in question and how it applies in real life situation. To ensure that a lesson is relevant, the lesson should be contextualized, that is, personalize context through real-worked applications. In other words, the real life application of a lesson should be very clear to the learners. That is, the practical application of a lesson to life outside schools should be obvious to learners. Relevance of the lesson to the learner and to the society is central for any meaningful lesson. Thus, application of the lesson to real life problems is key in this regard. The fact remains, that when learners see and acknowledge the relevance of a lesson, their interest, and spur can be guaranteed during teaching/learning process. So, package should have bearing to their goals in life and also match their motives.

iii. Confidence. Learners should be made to realize that they can make it and that the objectives of the lesson are achieved, no matter the complexity of the lesson. Let us build that confidence in learners and avoid the obnoxious impression that certain categories of learners are no do-wells. How can we achieve this confidence in the learners? Our learners have to be provided with guidance and needed assistance that could help them succeed and make them develop confidence in their own abilities, even in mere difficult action tasks. Making learners have confidence in themselves will obliterate in totality inferiority

complex for which some learners may be known for. When learners have confidence in what they can do and what they are doing, they remain motivated and the attainment of lesson objectives is guaranteed. Confidence makes a learner stand tall in the midst of peers. Why? It gives him/her the needed strength and confirms preparedness and dexterity required of a learner. Where confidence is an attribute of learners, learning task before them can be performed with ease and without stress. So, the package should provide learners with learning requirements and success opportunities that would make them excel.

iv. Satisfaction. This, like the other elements also drives both intrinsic and extrinsic motivation. The instructional design should be arranged and sequenced in such a way that learners can have that feeling of pleasure in what they are doing. So let them move from simple to complex tasks, dwell more on familiar than unfamiliar concepts, and concentrate more on concrete than abstract experiences. This is because a learner is satisfied when he/she is convinced that a learning package is going to lead to his/her fulfilled learning needs.

Motivation, whether intrinsic or extrinsic, leads to greater input and desired outcome in institutional growth. Our learners should be motivated if learning must take place. How? The wise use of the elements in the 2- models illustrated in this paper if given their due place are enough to make our teaching quite appealing and satisfying to our learners.

Technology Integration and Utilization

Technology secures a core component of this lecture because we are in an era where our learners have become digital

natives and netizens, who speak the language of Information and Communication Technologies. In a study by **Williams** & Adesope, 2017 on the subject under reference, mean values below the criterion value of 2.50 on all the technologies under investigation were recorded. The empirical study was a survey type armed at evaluating the degree or extent to which teachers in the present ICT age utilize the avalanche of supportive software that adorn the education scene. The software included; productivity, research communication, problem solving and educational realizing their supportive role in facilitation and improvement of learning. Thus five research questions guided the study. An instrument tagged ICT Software System (ICTSS) was used in the study. A major finding of the study is that teachers utilize word processing and research software (Browser, search engines and plug-ins) very well in their lessons while other productivity software (spreadsheet, presentation, database, graphic digital audio and digital video editing); communication, software problem solving software and educational software, are yet to be truly explored. However, **a major contribution to knowledge** of this study is that teachers can only function effectively in this ICT age if digital immigrants turn natives.

This corroborates the fact that technology integration can only be real when we accept the fact that we are in an ICT learning environment made up of two citizens; the digital immigrants or visitors and the digital natives. Teachers and lesson handlers who are not ICT savvy fall into the former, while the learners born in this age constitute the latter. Distinctively, the immigrants; rarely use ICT devices; and, rarely refer students to relevant websites; do not explore the potentials of social media in learning and can stay days without going online. They could be aptly described as the technophobia group. On the other hand; the natives spend more time in the net and

work best when networked; they are computer savvy; play games and watch simulations and animations-the technophile group. In the learning environment of today, these natives are present, as shown in the Figure below.

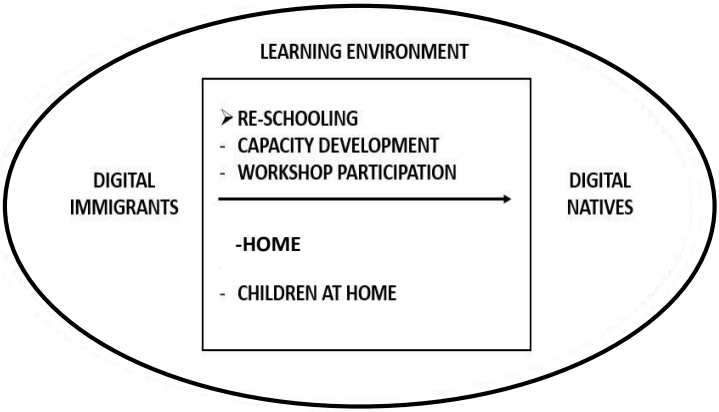

Fig. 9: Dual natives learning environment.

How can these two different natives function in a learning environment? The reason being that no one can use what one is not good at, hence, lesson handlers who are not ICT compliance cannot explore the gains they offer in facilitating learning. And so, re-schooling and reversed mentorship become more available measures for the immigrants. Re-schooling would require an immigrant realizing the need to upgrade in ICT skills, as to be able to understand and speak the language of the natives. Capacity development and workshop participation are some viable options in this regard.

Secondly, reversed mentorship is key at this stage. The adult or digital immigrant should develop an open mind to learn from the young and digital natives. The home is a handy resource in this direction. Let us explore the ICT expertise of our children to gain from the rich knowledge and skills they have because

these technologies came at their own time. These measures sued for in this paper are necessary if immigrants must turn natives and to be able to speak the language of the natives in the ICT world of today. And for the teacher and lesson handlers, it is expedient because as it is often said that those who fail to embrace technology will definitely be replaced by technology **(Williams,** 2014; **Williams** & Charles-Ogan, 2015a).

Technologies come in various forms; productivity, research, social media, communication, problem-solving, tutorials and learning management systems, amongst others and which can facilitate learning when fully tapped. Their significant role in the teaching and learning process has in no small way endeared them to the 21st century teacher in facilitating learning as they possess such tenets as; speed, accuracy, reliability, effectiveness and efficiency, amongst others.

However, the dominant presence of the teachers and learners in their conventional role, even in the present age, is a sure indication that these ICTs are yet to be explored in the real sense of the word. Technologies have revolutionized the world, education inclusive and to be precise teaching and learning. Unfortunately, we had a result that startled us when we conducted a study 8 years ago. In the study, **Williams** and Adesope (2016), were on a mission to unravel technology integration and utilization status by our then target audience, who were secondary school teachers in 20 Public urban schools in Rivers State. The findings had it that such technologies as; productivity, research, communication, problem-solving, tutorials and learning management systems, all but communication had mean values $\bar{x}$ below the criterion mean value $\bar{x}$ of 2.50 in a Likert-like researchers' designed instrument. Anyway, current works are inevitable to confirm if

the situation is still the same, or it has changed. Admissibly, things and situations change with time. Also, the focus could also go beyond the secondary to the tertiary to ascertain the level of integration and utilization of these devices. This should be an area to explore by future researchers.

Productivity technology include; word processing, spreadsheets, presentation, database, graphic organizer, digital audio and digital video editing software, amongst others as the names imply, they enable users to create something new, confirming the productivity name they bear. After all, Educational Technology has "creating" as one of the essential elements it contains in its current definition and quest of facilitating learning and improving performance. Word processing software for instance has such as; basic desktop, publishing, language, web, and support features that aide learning. Roblyer and Doering (2014) would add that they have basic features which help in; saving time, writing text and making changing text easier and more flexible; desktop publishing covers making flyers, reports, newsletters, brochures, and student handouts. The language features help teachers and students correct their work, language spelling and usage exercise, and while web features help both teachers and students connect documents with internet resources, the support features make using the programme easier and more flexible. So it is obvious that the classroom uses of this technologies are limitless. Corroborating the position, Morrison and Lowther (2010) have also shown evidence that the use of word processing on a regular basis improves the writing skills of school students. Spreadsheets on the other hand can be used to organize data, test formulas or be used to graph information. Students can use an electronic spreadsheet to test their hypotheses and perform what-if analysis (Lever-Duffy & McDonald, 2011). Depending on the lesson, the gains

of the five distinct features of spreadsheet can be a good resource. Graphics/interactivity, making it easier to display and manipulate budget grade or survey data and do mathematical problem-solving (basic); alignment, charge styles/appearance and insert automatic headers (formatting); allow spreadsheet data to be shown in more visual formats, (graphics/interactive), allow teachers and students to connect document with internet resources (web), and make using programme easier and more flexible (support).

A handwritten document falls prey to numerous grammatical and structural errors, which a simple productivity software serves to eliminate. In the same vein, there are technologies that guarantee error-free and accurate calculations, ease of delivery of rich presentations, records bank, and simple or complex concept map and enriched audio or video aids that support learners and improve their learners' performance. These confirm the creative function of productivity software in enriching and supporting learning.

Presentation technology allows display frames of information in a set sequence, offers various ways to view slideshows, and allows variation in text spacing and frame occurrence, amongst others. The software which includes preprogrammed backgrounds animations, sounds, and functions that can be formulated to create limitless slides provides a user-friendly interphase that lets students create colourful and informative displays in any subject area. Database generally were applications which help us to store sets of related information in data files. When information are stored in a database as they relate to teaching and learning; assist students in thinking through and creating logical data organization, easily entering of data for subsequent organization and reporting while helping the teacher in creating customized data organization

that suits their specific needs as well managing students and content data.

Graphics technologies enable teachers and students to support teaching and learning through visual created or enhanced electronically. Geometric shapes, curves and polygons, graphs are generated with ease using this application. Digital audio editing, and digital video editing software function in the same manner, only that they differ in their sensory focuses. While the former is concerned with hearing aids, the latter deals on seeing aids and images. So while we use digital audio editing software to edit audio files, digital video editing software is used to edit video files. The essence is to produce an audio or video work that is rich in content vis-à-vis the objectives that guided the project.

Research tools offer a richer, accurate, wider, authoritative and primary source of research materials. The browser, search engines and the like have revolutionized research and contributed in no small measure to today's global knowledge economy. They have boosted research in education because of their numerous and limitless pros. Initial access to the Web commences with a browser, while the primacy type of software tools used within a browser are search engines. However, the plug-in is typically free and easily downloaded and installed software that may be needed to access some files located during internet research.

Social media in education are used to foster learning by allowing for social interactions, active participation, and engagements of students in classroom discussion, communication (blended/online courses and social media solutions). Social media podium, like Facebook and Twitter, grew seriously consolidating with different applications

focusing on knowledge information, instruction, or training. Instant news report and appropriateness makes the aim that could be used speedily and reliable, but the variation disposition makes it hard for school system to keep abreast and offset. Most students in tertiary institutions today are, functioning with social networking dais, and the services are previously gadgets that they are mostly enjoyable with, and they can likely reveal a thing or two in exchange. According to Zdnet.com (2017), by learning how to use these platforms as a teacher, you are making yourself more aware of issues surrounding students today. If a student tells you a classmate is harassing them over Twitter doing something called "tweeting", how can you investigate the situation unless you know how to search profiles and send messages yourself? From current news feeds, following public figures, learning a new language or improving software skills, there is an endless range of free resources available through social media both linked and hosted. If you are looking for a debate, a video, or commentary based on a recent news report, Facebook and Twitter's search functions make them a valuable and free set of tools. Being able to find information online is a skill that is now important in the workplace-and one that can be taught lessons designed around social media platforms

Communication technologies occur in two forms, asynchronous and synchronous or real-time. Email, lists, discussion boards, blogs, wikis, and podcasts are asynchronous. Electronic mail or e-mail for short can be read at receiver's convenience and avoids the possibility of calling at the wrong time, lists on the other hand enable the same information to be sent subscribers to a teacher's list, while discussion boards create an environment that permits users to read or post comments and questions relating to a research topic (Morrison & Lowther, 2010). The same authors maintain

that blogs enable personal nomination on topics on the Web. Wikis however are collaborative websites created with "open editing software that allows users to easily create, add or remove web-page content without using complicated program language, while podcasts are a popular means of sharing digital multimedia files over the internet. Synchronous communication typified by chat allows users to engage in some text-based chat room conversation. Instant messaging (IM) offer such service to fewer users who must be a member on a buddy list if the same IM system, distinctive features that make it different from chat.

Communication tools in turn has revolutionized the talk-and-chalk role of the teacher, where the face-to-face factor must come to bear. The email and chat software for instance properly tapped can support teaching/learning in no small measure. The current status of the modern classroom, e-conferencing, is courtesy to the presence of this software.

Problem-solving technologies, like games and simulations, have made an appreciable in root into the modern classroom. The competitive and motivational attributes of games software via drill and practice approaches have made them very relevant in today's world. Problem-solving software like-games software present and review instructional content in a game format using sequence of game rules and graphics. They offer competitive and motivational advantage to teachers and learners while in a game environment. Some game software offer reinforcement for current answers than in current ones. Others include, elements of adventure and uncertainty, and levels of complexity matched to learners' abilities. Simulation on the other hand is a computerized model of a real or imagined system designed to teach how the system works. In other words, through simulations it is possible for models, real

or imaginary systems to be shown on their operational principles, making related concepts to be learned with ease. Two types of simulation applications are common; those that teach about something and those that teach how to do something, amongst others, speak volume on the benefits of simulations (Ward, 2006; Clark, 2007; Chang, et al, 2009).

Tutorials and integrated learning system (ILS) are very relevant in today's classroom. Tutorials present new materials, usually in a carefully instructional sequence, with frequent opportunities for practice and review. Whether linear or branded, the feedback mechanism ensures mastering.

A good tutorial software should offer extensive interactivity, thorough user control; other appropriate pedagogy; provides adequate answer-judging and feedback capabilities; appropriate graphics, amongst others. Hence, limitless advantages abound, and all that is required is for the 21st century teacher to explore the gains these tools can offer.

The catalogue of technologies showcased in this subsection and what they hold for teaching and learning in today's classroom confirm their inevitable role in facilitating learning and improving performance. The teachers of this age stand at liberty to explore these pieces of technologies as to benefit from their numerous gains. It is therefore obvious that if these and other gains are what these ICT software stand to accomplish for us, then it suggests that their place in the 21st century classroom need to be explored if the today's teachers must improve on their pedagogical responsibility.

To go beyond technology/media integration in learning, there are certain measures that should be put in place, summed up as the **5Rs of technology/media utilization.** The 1st-P, stands for

previewing. This is necessary to ascertain the functionality and usability of a technology. The 2nd P is practice, which prescribes that a kind of rehearsal with it is necessary, after all it obvious that practice makes perfect. The 3P stands for preparation of the environment. It is true in the sense that we cannot think of using a PowerPoint for instance in a class that has no functional electric provisions. Also, let the audience be prepared for any technology they are to use. This is the position of the 4th P. This also buttresses the making known the objectives and materials to be used very relevant in learning. Then finally is the 5th P, which is the presentation paper. This last one showcases all that the other Ps intend to achieve in promoting meaningful learning.

Handling Continuous Assessment and Evaluation

The subject of evaluation is a broad one and could form the title of an inaugural. Therefore, a segment of this subject to be addressed in this discourse is Assessment and specifically Continuous Assessment (CA). The reason is that both go pari passu.

We are right to say that CA is a formative evaluation, as an educational product refining mechanism, that will guarantee attainment of desired product, which manifests at the summative phase of evaluation (**Williams,** 2006b).

By the injunction that assessment is continuous simply connotes that a one-spot assessment defeats the purpose and intents for which this progress and error detection mechanism is supposed to serve. A one-spot, assessment, non-continuous one, is that it falls conveniently into a linear model of communication that pays no attention to outcome, result, or feedback. This is a serious error that negates the principles of continuous assessment. How? Assessment provides us with a

knowledge of result (KOR) or knowledge of feedback (KOF). And courtesy be hooves on us to have a serious look at this result/feedback and offer remediation where the need arose before making further progress in our lesson. The Figure below will illuminate this position.

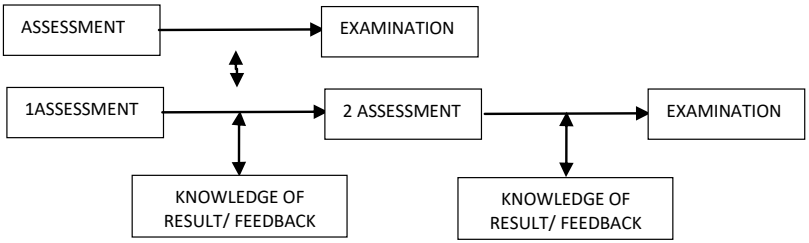

Fig. 10: Non Continuous Vs Continuous Assessment Model

Attention should be paid to the results/feedback of every assessment. When this is done, it offers the opportunity to proffer solutions or remediation measures to help address the negatives. This is essential so that we do not carry over a defect that will obviously manifest at last, which ordinarily could have been corrected ab initio. Continuous Assessment is based on the doctrines of non-liner and cyclic models of communication. Such models acknowledge feedback as an essential element. It is this feedback that makes communication whole and complete in our daily life.

The insensitivity to the importance of a continuous assessment becomes obvious when even in a revision week, course contents are yet to be covered and students are still exposed to new knowledge. One can then ask. Where is the place of Continuous Assessment in a situation like this? Also of concern is why would some student not have no CA? A readily available excuse is that they were absent in the day of CA. What a contradiction! An Assessment that should be a

continuous one taking place in a day? Also, must it be written? Where is the presence of other assessment formats; projects and take home works, amonsgt others?

The national policy on Education document of the Federal Republic of Nigeria (FRN) and other education policies are specific on the place of CA. As such, they must not be toyed with so that a learner's weakness can be detected and addressed on time. After all, we are conversant with the saying that "a stitch in time serves nine"

Evaluation, guided by the questioning skills which were already addressed in a section of the paper, there is the need for it to be tied to stated learning objectives. This should be the practice because there is a strong relationship that exists between the two.

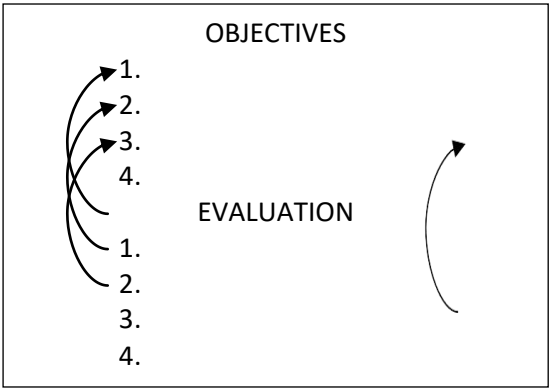

Fig. 11: Objectives-evaluation relationship.

The Fig 11, above, simply has it that assessment and evaluation should be influenced by already stated learning objectives. Where the reverse is the case, a conflict is created in an instructional process which invariably could lead to some

unpleasant consequences, which this discourse sought to discourage.

Other contributions to knowledge

CLIP Model

This is a 12-element contextual learning instructional package model that encourages the application of academic content to real life application. This model was used to develop a contextual instructional plan in a biology lesson. It was obvious that the academic performance of senior secondary school biology students, contextual learners (CL) versus traditional learners (TL), was in favour of the former. The result of urban learners UL and their rural counterparts (RL) followed suit. Two null hypotheses guided the study and the t-test results confirmed a significant difference in the variables under consideration. The t-cal for instance in the CL versus TL was 3.45 as against t-tab of 1.699, while that of UL versus RL was 3.41 as against t-tab of 1.999. This study confirmed that when learners see the relationship that exists between academic contents and their real life applications that learning becomes meaningful (**Williams,** 2005).

Multimedia Principles

This study was a descriptive survey that involved a randomly selected sample of 120 (one hundred and twenty) Post graduate students of the University of Port Harcourt. The instrument consisted of a 31-item Multimedia questionnaire divided into seven (7) sections. This instrument met the indices of both content validity and reliability. Some of the findings of the study were: texts still dominated most PowerPoint; there was obvious difficulty in labeling complex graphics as lines intersected; occasional non reference to projected slides perhaps due to time factor, reading from slides in some cases;

and the formal rather than conversional style of presentation, amongst other. The study showed that in the use of PowerPoint that a conversational approach is more ideal than formal style (**Williams** & Charles-Ogan, 2015b).

Collaborative Learning in a Virtual Environment

The survey study was aimed at ascertaining the level of incorporation of collaborative strategies by Post Graduate (PG) students who offered the Course CGS (801.1), ICT and Research Methodology in the Faculty of Education, University of Port Harcourt. A sample size of (100) one hindered (100) dawn from two departments: Curriculum Studies and Educational Technology (CSET) and Educational Management (EDM) were used in the study. The instrument used for the study was a 4-point Likerk-like scale validated by experts versed on collaborative learning. The reliability index of 0.67 and an acceptable mean of 2.50 were used to confirm compliance or no compliance to collaborative learning. Only one research question was used in the study. The grand mean and standard deviation of both departments were used in testing the hypothesis that guided the study. A major finding has it that students saw themselves as rivals and thus showed obvious deficiency in the power of collaboration in attaining of learning outcome. The study revealed that a non rivalry approach to learning boosts interpersonal and social skills among students (**Williams** & Augustine, 2015).

ICT Competencies of Inductee Teachers

The empirical survey investigated the ICTs competencies of one hundred and fifty (150) inductee teacher during their induction ceremonies. A validated and reliable questionnaire instrument with a four point scale was used. Two hypotheses guided the study. The analysis of variance (ANOVA) and t-test were used to test the hypotheses. A major finding was that

over 30% of the inductee teachers showed dearth of needed ICTs competencies required to function in this present digital age. A major contribution to knowledge in this study is that the ICT competencies of our students can be guaranteed if the practicum component of ICT courses in education is emphasized. However, the study admits that this can only be possible if the teachers in service can be seen as models in this context (**Williams** & Kpee, 2017).

ICT Competencies of Serving Teachers

The empirical and descriptive survey was a reflection on teacher education vis-à-vis the ICTs competencies of serving teachers. The research questions are null hypothesis guided the survey. A four-point likert-like instrument was the questionnaire. The four-point scale had a criterion mean value of 2.50, hence the questionnaire met both conditions of validity and reliability through peer reviews and test-retest measure with an index of 0.77 respectively. A major finding was that there was obvious presence of ICTs competencies among teachers as the mean value of 2.44 is close to 2.50 the criterion mean. Also, the study showed no sex advantage of ICTs competencies among male and female teachers. On this premise, a major recommendation was that there was the need for teachers to increase their ICTs knowledge and skill by integrating them in their daily lessons, and also that there is the need for collaboration among teachers irrespective of gender (**Williams** & Nwosu, 2017).

Use of Social Media for Learning

The study investigated Undergraduates' attitude towards the use of social media for learning purposes. It was conducted at the University of Port Harcourt, Rivers State, Nigeria. Two objectives and two null hypotheses were used to investigate the study. The population used were Undergraduate students from

three faculties at the University of Port Harcourt. A sample of 300 students were randomly selected from three Faculties. Simple random stratified sampling techniques was used for the study and instrument used to collect data was a structured questionnaire entitled Undergraduates' Attitude toward the Use of Social Media for Learning Purposes (UATUSMLP) with 42 items. Mean $\bar{x}$ score, ANOVA, Z-test and Scheffe's model were the statistical tools for the study. The Instrument was given to experts in the field of educational technology to ensure its validity. Test retest was applied to ensure reliability of the instrument and reliability coefficient of 0.84 was obtained. It was found that social media are used for educational purposes in terms of quick growth in knowledge and information. In addition it was found that undergraduates bound with close and prospective groups for change. It is recommended that Universities should be acquainted with students want and concern in the schools (**Williams** & Adesope, 2017).

Infographics for Learning

The study ascertained the effect of infographics on class size, attitude and academic performance in Media Systems among undergraduate students of Curriculum Studies and Educational Technology, Faculty of Education University of Port Harcourt. The study was guided by three (3) objectives, three research questions and three hypotheses. The population comprised of seventy-nine (79) three hundred (300) level students of Computer Science Education, who also served as the purposive sample selected by the researchers. The research instrument was questionnaire structured by the researcher. The questionnaire consisted of twenty (20) items designed to determine student's attitude toward media systems. The data collected were analyzed using Mean $\bar{x}$ and standard deviation while t-test was used to analyze the hypotheses at 0.05 level of

significance. The study revealed that there was significant difference in students' attitude on the use of infographics and on their academic performance in media system. There was also a significant difference between male and female students' academic performance on the use of infographics in media systems. As a result, the males performed better that the females. Males had a stronger affinity and interest towards the use of infographics in media systems. Recommendations were that teachers should be encouraged to use infographics during teaching and learning, the students should also be encouraged to develop positive attitudes in the use of infographics in their various courses (Nwosu & **Williams**, 2018).

Further areas of research interest

Pedagogy, Content, Technology knowledge (PCTK) and Content, Technology Knowledge (CTK) and students' interest and academic performance in tertiary education.

Available data (academic records) of students plus a well structured questionnaire shall be used in the study. The study shall compare the students taught by lecturers that have PCTK and those without Pk. The study will want to establish if PK has any positive influence on the two variables under investigation, even at the tertiary level.

New technologies resistance: Overcoming the barrier to innovation and change.

The study shall seek to provide empirical bases of how new technologies can be embraced and integrated with ease by teachers.

Shallow and Deep learning and students' interest and academic performance in a selected subject area.

This is going to be a collaborative work with persons in Computing Science or Artificial Intelligence to be precise. The interest is that when learning becomes deep, it is obvious that it is capable of solving complex human problems. And so how education can leverage on this subject of deep learning to improve on what we do in teaching and learning is of great interest to me as a facilitator of learning.

S/N	SUGGESTIONS
1.	Let learning be approached with the mindset that we have different learners in any given class.
2.	Learning objectives in measurable terms should be made known to our students.
3.	Wise use of pedagogical skills, the hard skill for instant should not be an option for lesson handlers.
4.	De-emphasizing lecturing and allowing learners take the 'center stage' should be paramount if learners are to be involved in learning.
5.	Contextual learning which aids motivation should be sued for and the use of derogatory comments discouraged.
6.	All-rounder educators, rich in pedagogy, content and technology knowledge should be pursued with vigor.
7.	There should be no one-spot assessment, and, both assessment and evaluation should always match learning objectives.

Conclusion

The way a lesson is handled can make it a difficult or simple one. In other words, lesson handling influences outcome. Thus, we need to engage a reverse gear in our teaching approaches, consciously or not, that have impeded learning all this while.

When we accommodate different instructional approaches and reduce the over-bearing influence of the teacher as the sole source of knowledge, learning then becomes learner-centred. Also, let well stated learning objectives influence our lessons for meaningful results. And finally, when there is a connect between academic contents and their real-life applications, wise use of the hard skills, explore the rich gains of technology and pay attention to continuous assessment outcome, learning can be made easy. This is the position of the 7-doctrines of this discourse.

We should target at pass and not failure grades in our lessons. What is our aim will definitely influence our approach towards lesson handling.

VC Sir and my rapt audience, this is my take on the subject of today.

Thanks for listening.

REFERENCES

Arnoid, J., Robertson, I.T. & Cooper, C.L. (1991). *Work psychology.* Pitman.

Arshavskiy, M. (2013). *Instructional design for e-learning: Essential guide to creating successful e-learning.* www.youreleaningworld.com

Butler, K.A (1998). *Learning and teaching style: In theory and practice.* Learners' Dimension.

Chang, D., Wang, Y. & Hung, D. (2009). A journal on refining rules for online discussion: implication for the design of learning management systems. *Journal of Interactive learning Research, 20* (20), 157-173.

Charles - Ogan, G. & **Williams, C.** (2015), Flipped classroom versus a conventional classroom in the learning of mathematics. *British Journal of Education (BJE), 3* (6), 71-77.

Claretain Pub. (2010). John 20: 24 & 25. *Holy Bible: Referenced edition (reprints).*Same.

Clark, R. (2007). Learning from serious games: Argument, evidence and research suggestions. *Educational Technology, 47* (3), 56-59.

Deci, E.L. & Ryan, R.M. (1985). *Intrinsic motivation and self-determination in human behavior.* Plenum.

Dunn, R. & Grigg S. (1995). *Multiculturalism and learning styles*: *Teaching and counseling adolescents*. CT Praeger.

Erickson, F. (1997). Culture in society and in educational practice. In J.A. Banks, & C.A.M Banks (E.ds.), *Multicultural education*: *Issues and perspectives* (3rd ed). Allyn & Bacon.

Felder, R.M. & Silverman L. (1988). Learning and teaching style in engineering. *Engineering Education, 78* (74-681).

Gardner, H & Hatch, T (1989). Multiple intelligences go to school. *Educational Researcher, 18* (8) 4-10.

Gollnick, D.M and Chinn, P.C (2002). *Multicultural education in a pluralistic society* (6th ed). Merrill Prentice Hall.

Goodenough W. (1987). Multi-cultural as the normal human experience. In E.M. Eddy. & W.L Partidge (Eds.), *Applied anthropology in America* (2nd ed). University Press.

Gregore, A.F (1985). *An adult guide to style* (2nd ed). Gregore Ass Inc.

Harb, J.N.S, Durant, O. & Terry, R.E. (1993). Use Kolbs' leaning cycle and the 4MAT system in engineering education. *Journal of Engineering Education, 82* (2), 70-77.

Harward, W.L. (2002). *Exceptional children* (5th ed). Practice Hall.

Herzberg, F.W., Mausner, B. & Snyderman, B. (1957). *The motivation to work.* Wiley.

Honey, R. & Mumford, A. (1989). *The Manual of learning opportunities*. Peter Honey.Keller, J. M. (1987). Development and use of the ARCS model of motivational design. *Journal of Instructional Development, 10* (3), 2-10.

Kolb, D.A. (1976. *Learning style inventory*: *Technical manual*. Mcbear & Co.

Lane. C. & Lyle, H. (2011). Obstacles and supports related to the use of educational technologies. The role of technological expertise, gender, and age. *Journal of Computing in Higher Education, 23* (1), 38-59.

Lever-Duffy, J. & McDonald, J.B. (2011). *Teaching with technology* (4th ed). Pearson.

McCarthy, B. (1990). *Using the 4MAT system to bring learning styles to school*: practical guidelines for developing a non-graded programme. Parker

Morrison, G.R. & Lowther, D.L. (2010). *Integrating computer technology into the classroom: Skills for the 21st century*. Pearson.

Nwosu, E.H. & **Williams,** C. (2018). Effects of infographics on academic performance, attitude and class size of undergraduate students in media system. *American Journal of Education Research (AJER),* 6 (1), 83-87 http://pubs.sciepub./com/education/6/1/13. DOI: 10.102691/education6. 1-13.

Roblyer, M.D. & Doering, A. N. (2014). *Integrating educational technology into teaching.* Pearson.

Sadker, M.P. & Sadker, D.M. (2003). *Teachers, schools and society* (6th ed). McGraw-Hill.

Sarasin, L.C. (1999). *Learning style perspectives impact in the classroom*. At wood Pub.

Sims, R. R. & Sims, S.J. (1995). *Learning and learning styles: A review and look at the future.* Greenwood Press.

Ward, R. (2006). Engage students with graphing software. *Learning and Teaching with Technology, 34* (1), 35.

Williams, C. & Adesope , R.Y. (2017). Undergraduates' attitude towards the use of social media for learning purpose. *World Journal of Education, 7* (6), 90-95.

Williams, C. & Adesope, R.Y. (2016). Exploration of ICT software in modern classroom by 21st century teachers. *International Journals of Academic Resources and Reflection, 4* (1), 15-22. www.idpublications.org.

Williams, C. & Augustine, S.E. (2015). Collaborative learning in a virtual classroom. It status in the current digital age. *European Journal of Research and Reflection in Educational Sciences, 3(*5), 45-51. www.idpublications.org

Williams, C. & C, N. Olele. (2013). *Motivation and instructional design*. In A. Ejiogu, U. Umo & R.

Esene (Eds.), *Globalization and education in Nigeria.* W& S Publishing.

Williams, C. & Charles-Ogan G. (2015a). Learning the language of digital residents (DRs): A naturalization formula for digital visitors (DVs). *European Scientific Journal 11*(4), 222-230. www.eujournal.org.

Williams, C. & Charles-Ogan, G. (2015b). Application of multimedia principles: Post graduates' experience. *International Journal of Computer Science and Information Technology (IJCSIT),* 1-10. ejcsit@ea-journal.org**.**

Williams, C. & Kpee, G.G. (2017). Reflection on teacher education and information and communication technologies (ICTs) of inductee teachers. *The International Journal of Science and Technologies (IJST),* 5(1), 21-24. www.theijst.com

Williams, C. & Nwosu, E.U. (2017). The teaching profession and information and communication technologies of teachers in a digital era. *International Journal of Scientific and Engineering Research, 8*(1), 24-34. http//www.ijser.org

Williams, C. & Olele, C.N. (2010a). Audience analysis in a pluralistic instructional setting: Implications for classroom teaching and learning. *African Journal for the Studies of Educational Issues AJEDUI, 5* (1), 123-127. www.ajeduonlire.org

Williams, C. & Olele, C.N. (2010b). The application of community based resources in promoting effective content delivery. *Nigerian Journal of Curriculum Studies & Educational Technology, 1* (1), 1-18.

Williams, C. (2002). Evolving a multi-instructional package (MIP) to match the learning styles of students in a traditional class. *Nigerian Journal of Professional Students in Education (NJPSE), 8* (5&6), 1-12.

Williams, C. (2006a). The Williams' contextual learning instructional package model: relevance and significance in teaching and learning. *Multidisciplinary Journal of Research Development (MJRD),* 6 (3) 113-120.

Williams, C. (2006b). Formative evaluation: An educational product refining mechanism. *Knowledge Review*, *11* (6), 13-19.

Williams, C. (2008). Democratizing teaching: A paradigm shift in instruction. *IKOGHO: A Multidisciplinary Journal*, 5 (1), 1-6.

Williams, C. (2012). *Micro-teaching in pedagogy*: *A contextual approach.* Jet Publication.

Williams, C. (2014). Acclimatizing to digital native's environment in developing nations. *Journal of Research and Methods in Education, 4* (1), 21-25. www.iosrjournals.org.

Williams, C. (2016). Exploring information and communication technology software in modern classroom by 21st century teachers. *International Journal of Academic Research and Reflection*, *4* (1) 14-22. www.idpublications.org

Zdnet.com (2017). Technology news, analysis, comments and product reviews for IT. Retrieved from www.zdnet.com.

Source: https://twitter.com/MrMorrisMuso

Source: https://study.com/academy/lesson

Source: https://web.facebook.com/IgboSocialMedia

Source: https://guardian.ng

Source: https://www.forbes.com, web.facebook.com/ONETOPMEDIA

Source: https://www.freepik.com/

CITATION ON

PROFESSOR CHETA WILLIAMS

BEd. MEd. PhD. (UPH)

Professor Cheta Williams, aptly described as a remnant (Isaiah 1:9), being the only son of the mother, late Mrs, Meyinah with the late Mr. Williams Ndalu Chukwu hails from Erema Community in the present-day Ogba/Ndoni/ Egbema (ONELGA) of Rivers State. His parents were peasant farmers, and the father to be precise was a palm wine tapper. To be exact, Professor Cheta Williams witnessed what life meant in a poor home, where they lived in their mud house.

The inaugural lecturer today started his educational career when he was enrolled in State School 2 Erema for his primary education in 1971. In 1976, he obtained his First School Leaving Certificate. He was in Stella Maris College for two years (1976-1978) but could not continue when the Government policy of free boarding was stopped. He then moved to Western Ahoada County High School, Ahoada (1978-1981), and obtained his West African School Certificate in 1981. In those days when Community Schools were

established by the Rivers State Government without a corresponding qualified workforce, the auxiliary teachers' scheme was an available option. Between1982-1984, he was an auxiliary teacher at Community Secondary School, Akabuka where his passion for teaching was ignited. Before the Government axe fell on the auxiliary teachers, he had enrolled in the Basic Programme of the University of Port Harcourt in 1984. His success in the programme qualified him for admission in 1985, with matriculation number U85/5842, and by 1989, he had his Bachelor of Education (B.Ed) in Biology, even as an indigent student in the Department of Curriculum Studies and Educational Technology. In 1999, he obtained a Master of Education degree and in the year 2005, a PhD, all in Educational Technology from the same University.

After his NYSC in 1990, in Imo State, Prof. Cheta Williams found himself in the University of Unemployment, a University he never bargained for. What a life! In this school, he offered all the courses (core & elective) and graduated at last, sufficiently rich in life experiences that propelled him to the height he has attained today.

Not until 1995 did he gain employment at the Federal College of Education (Technical), Omoku as Lecturer III, with his first degree. However, between this time and when he left the College as a Principal lecturer, he had obtained both Master's and Ph.D degrees, a sheer commitment to hard work.

Professor Cheta Williams joined the University of Port Harcourt in 2008 as Lecturer 1, and rose through the ranks: Lecturer I (2008-2011); Snr (2011-2014); Reader (2014 -2018) and in 2018 was pronounced a Professor, after all, internal and external assessment, plus the then almighty Professorial Interview.

Professor Cheta Williams lectures both at the undergraduate and postgraduate levels and usually witnesses good attendance as his students enjoy his pedagogical skills in lesson handling. This also accounts for the zero failure rate associated with the courses he presides. He has a good teacher-student relationship, also influenced by his goodwill and gestures. His Teaching Practice and project supervisees can attest to this. As at today he has supervised 88 undergraduate projects (Post NCE) inclusive and 26 post-graduate dissertations and theses.

Professor Cheta Williams is also active in the University, outside his teaching role. He was the chairman, of the Departmental Journal Committee; Editor, of Departmental Journal (NJCT&ET); Deputy Editor (JETT); Deputy Editor, (JEPE), and Consulting Editor, NIJSE. He has also served as a Liaison officer, at the Office of the Deputy Vice-Chancellor (R&D) Uniport (2013-2015), and Teaching Practice Coordinator (2012-2014). He was Director (Faculty Representative) CORDEC University of Port Harcourt (2013-2015), and a Member of; the Resource Verification Committee to the College of Education, Warri (2015). He was Ag. HOD, Curriculum Studies and Educational Technology (2014-2016), elected Dean, Faculty of Education (2022), re-elected unopposed (2024). He is currently a member of, the Board of Governors of the University Demonstration Primary School, University Demonstration Secondary School, and University Sports Institute.

Professor Cheta Williams is either an External Assessor or Examiner to Federal Collage of Education Technical Omoku; Nnandi Azikiwe University, Awka; Niger Delta University, Wilberforce Island, Bayelsa, and Ignatius Ajuru University of Education, amongst others.

The inaugural lecturer today belongs to several professional bodies. He is a member: of the Educational Media and Technology Association of Nigeria (EMTAN); the Teachers Registration Council of Nigeria (TRCN), the World Council for Curriculum and Institution (WCCI), and the European Centre for Research, Teaching and Development, UK, amongst others.

In his contribution to non-periodicals, Professor Cheta Williams has authored 2 books, edited 3, and has 23 chapters in books. In the periodicals, he has also published 30 articles in National Journals and 35 in International Journals, all to his credit. He has attended both national and international conferences and participated in numerous workshops.

Outside the University, Professor Cheta Williams is also a sought-after resource person. He has participated in several workshops organized by: The Niger Delta Development Commission (NDDC); Total Energies E & P Nig Ltd, Rivers State Government; Ahoada East Local Government Area and Ogba/Ndoni/Egbema Local Government Area, amongst others. In the year 2010, he was a member of the Rivers State Delegation to the World Petroleum Congress that was held in Doha, the capital of Qatar.

A lover of soccer he is and was in Russia in 2018 to watch live the World Cup. He is indeed a versatile traveler. Professor Cheta Williams is a humble, quiet, and unassuming teacher, happily married to Mrs. Patience Nwaelele Williams, and the marriage is blessed with four (4) children.

I hereby, present to us, a one-time auxiliary teacher, a one-time indigent student, a qualified teacher, a teacher of teachers, one who demystifies learning, a one-time Ag. Head of Department

of Curriculum Studies and Educational Technology, and current Dean, Faculty of Education, University of Port Harcourt to deliver the 188th inaugural lecture of the University of Port Harcourt titled "LEARNING IS NOT DIFFICULT BUT CAN BE MADE DIFFICULT"

Prof. Owunari Abraham Georgewill
Vice Chancellor