UNIVERSITY OF ILORIN

THE ONE HUNDRED AND SEVENTY-SEVENTH INAUGURAL LECTURE

"QUEST FOR VALUE AND RAISING ITS WORTH"

By

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Gentlemen of the Print and Electronic Media,
Distinguished Ladies and Gentlemen

Preamble

I ascribe all glory to God Most High and Father of all, my Lord Jesus Christ and the Eternal Spirit who makes all things possible. To Him be glory for making it possible for me to present this Inaugural Lecture. Mr. Vice

Chancellor Sir, I also thank you and the University for giving me this honour and privilege to share some of my academic and professional contributions with this august audience. I have had the privilege of functioning in the Departments of Educational Foundations, Arts and Social Sciences Education, Social Sciences Education and finally Adult and Primary Education in my 21 years of serving in this great University. The first three named Departments came through restructuring and the last where I currently function was created in 2014. This is the 177th Inaugural Lecture in the University of Ilorin, the 7th when my Department is traced through the three I have earlier traversed, the first in the Department of Adult and Primary Education, my present Department, where I also have had the opportunity to be the first Head of Department and the first in the year 2018. I must add that of all the previous Inaugural Lectures in this great University, none has been in the educational evaluation specialisation.

Mr. Vice Chancellor Sir, this first Inaugural Lecture in educational evaluation at the University of Ilorin is titled "Quest for Value and Raising its Worth" to capture research, teaching and the practice of educational evaluation as well as my contributions in this area.

Introduction

Education is the process through which individuals are equipped with values that enable them to live well in society. As people grow, education exposes them to experiences that make them wholesome persons whose behaviours are beneficial in all ramifications. Life therefore has value to the extent to which education has taken place. If transmitting value is the business of education,

discovering how this takes place and the extent to which it does is the business of educational evaluation.

Values are the outcomes of educational research, measurement and evaluation which cannot be obtained except through a deliberate and rigorous search involving data collection. To put value in perspective, its meanings in sociology and economics are briefly explored because these fields are closely linked to educational evaluation and they happen to fall within my orientation and research interest.

Merton (1968) in his publication: Social Theory and Social Structure, which was listed by the International Sociological Association as sociology's third most important book in the 20th Century, refers to values as the things *'worth striving for'* that are integrated with the goals of a group which are roughly ordered in some hierarchy and held with various degrees of sentiment and significance. Values are the things existing at different levels of generality in hierarchical order towards which a group deeply hold convictions as to their relative desirability at different explicit and implicit degrees. The society and its sub-groups therefore have shared values which help to achieve their goals which determine those also held by individuals that constitute each group.

Though there are classical and neoclassical perspectives to the meaning and usage of value in economics, to avoid complications, I have adopted that definition given by Keen (2001) who describes value as "the innate worth of a commodity…" This refers not merely to the price but also the discomfort associated with the use of an object. In economics, value has reference to commodities as well as what people are ready to give up for it and thus it is linked with utility.

The word evaluation has value embedded in it, hence educational evaluation is the process of determining the worth of an entity with the view to making value judgment on it based on established criteria. Sufflebeam and Coryn (2014) define evaluation as a process of attesting to reliability, effectiveness, cost-effectiveness, efficiency, safety, ease of use and probity by providing affirmations of worth, value, progress, accreditation and accountability. This brings the importance of educational evaluation for taking selection, placement, classification, scholarship, funding, promotion, certification, policy, guidance and counselling, curricular, instructional, programme, quality assurance and accountability decisions to the fore.

Measurement and research in education are complementary to evaluation. They are necessary steps that supply information which makes evaluation possible and are thus preliminary steps to it. Educational measurement refers to numbers used according to given rules, as well as their manipulations and interpretations. It is defined by Nitko and Brookhart (2007) as the procedure by which numbers, usually called scores, are assigned to describe the degree to which persons possess or demonstrate a specific attribute or characteristic.

The meaning, manipulation and interpretation of values in the form of numbers generated depend squarely on their measurement scales or levels. Values of any set of numbers have no meaning and are not easily interpretable or usable except the scale of measurement for arriving at them is clearly known. At the nominal scale of measurement, numbers are used for identity only; at the ordinal level numbers play the role of both identity and order; at the interval scale, the numbers play the additional role of

having equal distances between any two numbers next to each other; and at the ratio scale, the numbers used have, in addition to all the earlier characteristics, an absolute zero. The extent to which numbers could be manipulated and interpreted depends on scales or levels of measurement.

Research in education adopts the scientific method by engaging in a systematic, controlled, empirical, and critical investigation of hypothetical propositions about the presumed relations among natural phenomena (Kerlinger, 1986). Development and research go together as they come handy in developing and validating educational products. This covers such products as textbooks, instructional materials and related resources, instructional strategies as well as persons on which these are used. The object of research and development is to both discover new knowledge by means of basic research and provide answers to questions on practical problems through applied research. Though some academic researchers tend to take it for granted because in their opinion, everyone has been exposed to the rudiments of research methodology, the worth of research as a specialist area has been recognised by some great institutions globally, including this University, for award of the highest academic degree in education. Research findings cannot be of greater worth than the measures that were used to gather the research evidence (Gall, Gall & Borg, 2003). The statement credited to Osgood, Suci and Tennenbaum, 1957) becomes even more relevant today than when it was made and it states.

Evaluation is perhaps society's most fundamental discipline; it is an essential characteristic of the human condition; and it is the single most important and

sophisticated cognitive process in the repertoire of human reasoning and logic.

As the human cognitive process, reasoning and logic are particular focus of education; the thought here is putting evaluation in the service of education for achieving societal goals. Research takes data obtained through measure to serve the purpose of evaluation as shown in Figure 1.

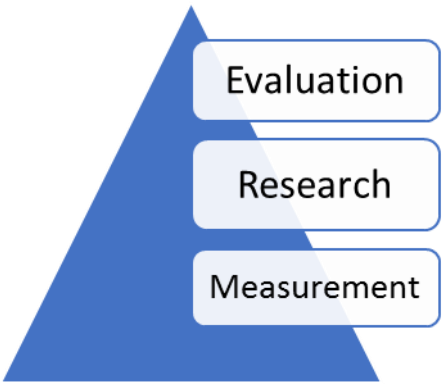

Figure 1: Evaluation Process Concepts (Owolabi, 2010)

The Collins COBUILD Advanced Learner's Dictionary (2006) defines "quest" as a long and difficult search for something. In this wise, quest takes on the meaning of research as the control and study of variables as well as the meaning of evaluation, as asking the right questions and providing answers to them with measurement coming in to ensure that appropriate techniques as well as valid and reliable instruments are employed for answering the questions. Quest as used here covers any systematic search, interrogation, examination or investigation for the purpose of achieving the objectives of research, measurement and evaluation in education.

Values generated through measurements, i.e. the measures, have the tendency for error. In essence, measured values often referred to as scores comprise both true and error components represented thus: Measurement = True Score + Error (M = T + E). Practically all measurements have some elements of error in them and this makes the issue of precision or validity a requirement for every measurement. Measures in education pertain to what is learned in or outside classrooms as taken from the curriculum. From elementary to tertiary level, teachers measure learners' skills, abilities, competencies, attributes and characteristics. Experts pay attention to maximising the true score component and minimising error component of every measurement. This way, the value of measures is ascertained and established as dependable or reliable too. This validation processes raise the value of measures obtained and this is the beginning of raising the worth of values obtained in educational evaluation.

In addition to raising the worth of values obtained through validation procedures, it becomes more important for the educational evaluator to raise the worth of values when the outcome of evaluation is not satisfactory or is deficient in any or many respect(s). An Educational Evaluator must then take decisions or make recommendations to appropriate stakeholders as to decisions requiring improvement, total change or replacement as the case may be. What becomes immediately obvious and after analysis and scrutiny is that the state of affairs calls for an intervention. The response is in the direction of raising the worth of the values observed. In this process, educational evaluation is carried to its logical conclusion, implying that until decisions and steps to

improve have been taken, educational evaluation is inconclusive.

Mr. Vice Chancellor Sir, there are many missing values, the worth of which needs to be raised, especially in education. Some of these must be explored in order to make this lecture fulfill its purpose in the service of education and the entire nation Thus, the quest for value becomes a necessity if the education enterprise must succeed. It is necessary for our country, Nigeria to do well. Before going too far in this lecture, it is necessary to make known that Robert Stake's (1967) contingency-congruence model of evaluation has been adopted just for the purpose of presenting my contributions to the field. Though construed as a model of curriculum evaluation because of its original focus, the application has extended to evaluation of development, health, social action and related programmes, projects and even national goals of education. It is also a traditional model of evaluation. Stake's model has three components: Antecedents, Transactions and Outcomes (ATO) and so it is also referred to as the ATO model.

Antecedents in the ATO model refer to the conditions existing prior to exposure to particular experiences expected to bring about specified changes. These are the conditions that gave rise to educational programmes as identified at the planning stage. For a nation, these are addressed in policies and specific goals and objectives spelt out in policy documents. In this study, only what has been prescribed in the National Policy on Education (2014) relating to educational evaluation are considered antecedent since the provisions were formulated to meet the educational needs of the country. Transactions are the structures and processes for achieving the stated

goals also known as implementation. Outcomes are the products, results and what has been achieved due to implementation. The antecedents are taken as part of this introduction while the transactions and outcomes will be treated under my contributions in research measurement and evaluation.

My Contributions

In the quest for value and raising its worth, specific human behaviours and variables that I have focused on in educational evaluation are highlighted and the outcomes reported as antecedents, transactions and outcomes.

Antecedents

The real antecedent to education in Nigeria today could be traced to the National Policy on Education. Nigeria affirms as a philosophy that qualitative, comprehensive, functional and needs-relevant education serving as an instrument for national development and social change, progress and unity, maximising the creative potentials, skills and fulfillment of individuals and society is a right of all its citizens. Based on this, the specific objectives of having a free and democratic, just and egalitarian, united strong and self-reliant Nigeria with great and dynamic economy and great opportunities for all citizens are specified. At the core of provision of basic education are the objectives of raising morally upright individuals, capable of independent thinking and providing learners with manipulative skills to enable them contribute to the nation's development. Even at the pre-primary level it is expected that education should develop in the child a mind for enquiry. Post basic education should provide job-

specific entrepreneurial, technical and vocational skills for self-reliance in agriculture, commerce and industry as well as contribute to economic development and raise patriotic, morally upright and well-adjusted persons who can think independently and rationally. Mass and nomadic education take their cues from these broad objectives while tertiary education is expected to build on them to bring students to the highest level of knowledge and competence. Mr. Vice Chancellor Sir, permit me to pick on just a few issues relating to these objectives.

The thought process is responsible for all human actions and the progress that any individual or group has made or will ever make. Rosenblum (1987) classified critical thinking as higher order processing of information for solving problems by individuals armed with fact and logic and guided by insight and empathy. This competence, which is needed by every single person in society, was defined by Paul (1993) as disciplined, rational, self-directed thinking that skillfully pursues the purpose of thinking. Critical thinking skill was simply defined by Owolabi (1996) as problem solving by making reasoned judgment. It is not the same as passing examinations! Critical thinking has been indicated as a goal of national education and stakeholders have underscored its key role. Brooks (1991) pointed out that its acquisition saves the schools the hazard of producing 'technically efficient robot', borrowing Callaghan's expression. To Long (1990), the value of thinking moves the schools away from doing away with unthinking memorisation of educational materials to independent, creative and rational thinking.

The goal of critical thinking, scientific reasoning and problem solving has been part of Nigeria's education policy

(FGN, 2013). It is a realisation that the state of affairs in every setting is a product of the thinking of the people operating that particular system, agency or institution. The fact that people criticise may not be sufficient to bring about the required reform or shape life in the required direction. It may however be the beginning of mobilising the thought that will change the unwanted status quo and replace it with the expected. Thinking is a major requirement for good quality of life, excellence and productivity and the global community is busy looking for thinkers to solve its problems and move the universe forward (Owolabi, 1996).

Jonathan-Ibeagha and Owolabi (1996) established that critical thinking, study habit and attitude of students to questions used during classroom instructions are significant determinants of their academic performance. The ex-post facto research was adopted and a sample of 495 secondary school students was selected. They were exposed to five measuring instruments and data were collected to test the hypothesised model with five equations generated to obtain the path coefficients and another set of ten equations were derived for decomposing the observed correlations between the variables studied. It was observed that the path between students' attitude to questions used during classroom instruction and their achievement in economics was not significant at the 0.05 level and thus this was removed to obtain a more parsimonious model. It was recommended that students' attitude and other related attitudes should be further studied to be able to predict their achievement in economics. I wish to submit that schools have failed to create the necessary environment to produce critical thinkers as classroom interaction and instructional processes are still teacher dominated. Rather than engage the thought

processes, learners carry on with unthinking memorisation of facts, laws, principles or formulae. Therefore, they find themselves deficient in the world that requires problem solvers. This is a major deviation from the value emphasized in the nation's policy.

The *Cambridge Business English Dictionary* defines hands-on experience as knowledge or skill that someone gets from doing something rather than just reading about it or seeing it being done. In the classroom setting, hands-on experiences are activities that are planned to make learning possible by doing. It means the coordination of mental processes with related physical processes for achieving the goals of learning. It is recognised that human beings' opposable thumbs are there for the reason of making manipulation easy. The sense of reward you get from making something with your hands cannot be earned any other way. It is obvious that people learn faster from 'hands-on' experience than they do watching someone else. Hebb's (1949) learning theory indicated that ***Neurons that fire together wire together: the more you do something, the more your brain responds to support that activity***.

Hands-on activities in the classroom therefore do more than to keep the learners busy. The broader context for the use of the whole-body system to achieve learning goals is covered by the psychomotor domain. Many people operate under the erroneous impression that those whose heads or minds are weak should be allowed to learn via handwork. This is not far removed from the late advent of technology education in Nigeria's educational development. Owolabi (2003) traced the development of technical and vocational education in Nigeria and identified such variegated names adopted at different points with each

carrying connotations that weakened the adoption and prominence of this very important component of learning for the nation's scientific and technological progress.

Such names as trade, craft, commercial, vocational or domestic science centres and/or technical schools were used to depict acquisition of rudimentary technological and vocational skills. With time, graduates of primary schools avoided proceeding to these institutions except when they had no option. The only option of name that looked a little attractive to them is comprehensive college and yet in these colleges, students preferred to be in science, art or commercial classes rather than the technical class. Attempts by the federal government to expose all basic school pupils to technology by including Introductory Technology in the junior secondary school curriculum, which is now referred to as upper basic school level, is yet to infuse the required skills in the young Nigerians.

Wherever the wrongly held impression that weaker persons should attend technical and vocational institutions came from, it has sowed the seed of negative values into the educational system. Currently, few secondary school graduates want to proceed to a polytechnic, monotechnic, college of education or other such institutions to acquire the much-needed life skills that could generate good quality livelihood and add value to both the beneficiaries and the society. As a result, the Joint Admissions and Matriculation Board (JAMB) has combined the matriculation examination to all tertiary institutions in Nigeria, and compelled every applicant to select institutions across the spectrum, for the reason of low patronage of institutions other than the university. Despite these, statistics of the comparative figures of applicants to the most sought-after tertiary

institutions by applicants in Nigeria in 2017 as reported by Joint Admissions and Matriculation Board. Three most sought-after institutions are shown on Table 1 and the wide gap is an indicator of the choices of young applicants across Nigeria

Table 1: Three Most Sought-after Tertiary Institutions in Nigeria

Name of universities	Number of Applicants	Polytechnics	Number of Applicants	Colleges of Education	Number of Applicants
University of Ilorin, Ilorin	104,038	Federal Polytechnic, Ilaro	1,706	Federal College of Education, Zaria	2,163
Ahmadu Bello University, Zaria	89,688	Federal Polytechnic, Offa	1,698	Federal College of Education, Potiskum	2,148
University of Benin, Benin	85,486	Kaduna Polytechnic	1,359	Aminu Saleh College of Education, Azare	1,382

Source: JAMB statistics on applications to universities, polytechnics and colleges in Nigeria - 2017/18

The debate is raging as to whether only the university is meant for all who graduate from secondary schools and the question is being asked whether it is possible to force secondary school graduates into institutions they have been made to hate like dung. There is a need to ask ourselves why a university graduate in Nigeria begins to pick the vocations they vigorously rejected earlier in their educational pursuit just before they finish their undergraduate education at the university or immediately after they graduate? Why will someone finish the first degree and then begin to learn how to be a seamstress,

photographer, cabinet maker, producer of cakes and confectioneries, bead maker, livestock or fish farmer and the likes under any guise. In this way, the system is asking for a makeup for this missing value. No one intends to follow an education route that terminates anywhere before the top. The poor options with which some of the young ones are left tend to make them feel there is no need to pursue the terminal route in career choice. Though many tertiary institutions now offer courses in vocational skills which they have called entrepreneurship, the skills acquired appear to be devoid of the development of the entrepreneurial mindset. A study of entrepreneurship mindset and career plans among undergraduate students exposed to courses in vocational and professional skills in a university in West Africa by Owolabi, Ogunlade and Arinde (2011) revealed that only about 15% intend to engage in any form of self-employment after graduation whereas close to 85% desire paid public or private sector employment.

The continuous assessment (CA) was introduced with the 6-3-3-4 educational system in response to the formative-summative paradigm shift in evaluation in Nigeria's first attempt at having a National Policy in 1976 but which did not have its provisions implemented until 1981. The provisions therein concerning the formative evaluation have been so poorly implemented that the Federal Government tactically replaced it with the School Based Assessment (SBA) at the basic education level. Values of the formative-summative paradigm shift have been undermined in the process through the mere multiplication of tests and examinations just to fulfill the letters of the policy. The benefits of comprehensiveness and variety in terms of contents and techniques, guidance,

corrective feedback and mastery of the contents have not been pursued to ensure that every school product is good. By the many tests which are to be used as a means of ensuring that learning takes place, the system has turned institutions of learning to mere examination centres.

A school system that is examination driven creates more problems for learners than it is solving. The Nigerian school system paints the picture of arenas where teachers and learners have no other thing to think and work on than how to take and pass examinations. Consequently, many otherwise beneficial skills, competencies and abilities are almost completely forgotten or swept under the carpet. Instead of bringing out good products, schools are busy separating and categorising learners into good, average and poor. The good ones can move forward, average ones may manage but God help the poor for they are not fit for anything. Any educational system that continues to do this is backward for the world we live in now and needs re-engineering. The worst aspect of this is that these examinations are high stakes and they place heavy demands on learners. The result of this is widespread cheating, certificate racketeering, and even falsification of continuous assessment scores. The paradigm shift in educational evaluation has been toward the use of formative evaluation complementary with the summative. This assessment procedure has been called performance based continuous, embedded, authentic, portfolio, school based or other such names (Elebiyo & Owolabi, 2017).

The continuous assessment is internal, school based and essentially teacher made. Owolabi and Aletan and Ogunjimi (2010) carried out a cross validation of the five-stage model of teacher concerns about the adoption of

school-based assessment along with the launching of universal basic education in Nigeria in 1999. The stages are Indifference, Informational-Personal, Management, Consequence-Collaboration and Refocusing. A 22-item questionnaire was developed and administered on a sample of 300 basic school teachers in Lagos State. Though the five-stage teacher concerns model was confirmed by data from teachers in basic schools in Lagos state, teachers expressed evaluative concern more than anything else.

Further study was carried out on challenges associated with the implementation of continuous assessment by Owolabi and Onuka (2009) in Kwara State. Data collection was carried out with a questionnaire each for teachers and students. Top on the list of challenges observed were lack of preparedness for tests by students, poor test administration procedures, poor handling of scores and feedback to students, poor coverage of instructional contents, large classes, inadequate time for tests and poor assessment skills. Serious restructuring of the school system and training in assessment skills for teachers were recommended to address the weak values observed.

It is becoming apparent that many graduates of educational institutions in Nigeria hold certificates which do not match their skills and abilities due to reasons not too far from the way they have been examined and categorised. This gap between what the graduates could do and what their certificates say they could do, which I refer to as 'competence gap', has been of interest to me and several other researchers in assessment and evaluation. Chief among the many factors found to be responsible for the competence gap is cheating in examinations.

In a descriptive study embarked upon by Olasehinde-Williams, Abdullahi and Owolabi (2003), cheating tendency was observed among final year students of a university in Nigeria. The respondents were given a test in one of their core courses. Scripts of the test which had been photocopied and scored by the researchers were given back as dummy to the students themselves to mark. A questionnaire was also administered to them to determine their attitude to cheating. It was discovered that though most of the students see cheating as bad, as high as 66% engaged in it. This means they did not endorse cheating but still engage in it. Whereas a higher proportion of male students manifested cheating behaviour than their female counterparts, the rate of cheating by both sexes was described as too high. Integrity as a value tends to lose its meaning when a person faces the battle of surviving of which passing an examination is major for students. Integrity seems to end up being a wish, an ideal which in reality gives way to the option of cheating. If this tendency is prominent in higher institutions, then one may be left to guess what the choice of the products of this type of system will be as custodians of the future of the country's education. This may be a reflection of societal values and the lip service paid to things every citizen must strive for but to which people are not ready to apply themselves.

If cheating borders on the integrity of students, it was deemed necessary to probe into what happens among lecturers of tertiary institutions. Olasehinde-Williams, Owolabi and Yahaya (2009) sought answers to questions relating to academic integrity among lecturers of tertiary institutions in Kwara State, Nigeria. The mixed method was adopted for the survey and three key stakeholders were

identified: students of tertiary institutions, their lecturers and administrative staff. Questionnaire, Focus Group Discussion Guide and Interview Schedule developed and validated were used for data collection from purposively sampled 566 participants. Findings indicated that some academic integrity problems exist among lecturers and these were manifest in the sale of textbooks and handouts authored by them to students, project supervision and handling of examinations. It was also found that significant differences exist in the perceptions of academic integrity among lecturers in the university, college of education and polytechnic with the university having the highest level. It was recommended that laws relating to academic integrity, strict adherence to teacher professional ethics and a policy specifying the code of ethics for academic staff of tertiary institutions be strictly implemented.

Cheating tendency is a reflection of life in the Nigerian society. Many people speak against corruption but they all the same engage in it with the slightest opportunity. Some do not even wait for the opportunity, they go out of their way to look for a way of corruptly achieving their goals. Those who cheat in the University have in their attempt to obtain a certificate demonstrated that they have the tendency to defraud wherever they find themselves in the future except something drastic happens. They constitute a potential threat to the value system in society. Some do not even bother to seek admission, they visit the den of racketeers in their desperate bid for the 'award' of their certificate at whatever cost. Each year, the National Youth Service Corps warns the higher education system against those who have not passed through their institutions but have presented themselves as graduates to participate in

the one-year national service. Integrity is priced, but its pursuit is neglected: wishful thinking!

Transactions

For children to begin to interact in a setting different from the homes they are used to and also to learn in semi-formal and formal settings, adjustment is required. This is a major need in Early Childhood Care and Development (ECCD) which some parents and other adults take for granted. Though it may be taken for granted by those who are little concerned about such little things pertaining to little children, the Federal Government of Nigeria in setting objectives of pre-primary education has stated that at this level attention should be paid to 'effecting a smooth transition from the home to the school' among other related objectives. This is foundational as it is actually the first objective of pre-primary education on which others are built as listed in the national policy on education. Education stakeholders have thus given serious attention to this seemingly little requirement for care and children's development in all ramifications of life. In some cases, adults want to enforce or compel adjustment. Many problems are associated with children's adjustment. It is however not a behaviour that could be compelled as a child may not begin to learn and grow in the expected direction except adjustment has taken place.

Viewing the dearth of research on school adjustment problems experienced by children in pre-primary institutions in Nigeria, Owolabi and Ogidan (2012) conducted a study in a capital city of one of the States in North-central Nigeria considered a typical urban setting with practices common to what obtains across the country.

Zoned into city-centre, reservation area, outer-city and peri-urban, pre-primary institutions were selected guided by age of establishment, children's population, settlement spread and ownership structure to achieve representativeness. Data were gathered through in-depth interview, observation and perusal of records. It was observed that majority of children in these pre-primary institutions were admitted at the age of about two years and they were moved into primary one class much earlier than the age of six years as prescribed by the National Policy on Education. Registering children under the prescribed age of six contravenes the national policy on education.

This implies that there is the tendency for them to also start primary classes earlier than 6 years if the prescribed two years of pre-primary education applies. Personal, emotional, social and school related adjustment problems were identified. With respect to care, the school environment, personnel, structure and other resources were observed to be supportive of children's adjustment. There was also evidence of good preparation of children in the pre-primary level for adjustment to primary education by the institutions which is highly supportive of their transition and continuation even at such ages younger than that prescribed by the national policy. All the institutions sampled in this study were privately owned but regulated and supervised by the State Ministry of Education. This was because there were no public primary schools which had officially started running pre-primary classes at the time of the study. The Federal Government has however prescribed that public primary schools should have at least one-year of pre-primary education after this study was concluded. Figures 2, 3, and 4 present pre-primary education settings:

Figure 2: Playgroup in session

Figure 3: A setting for children's Adjustment

Figure 4: Caring and learning in a crèche

The quality of items is usually verified in psychometrics. Quality of Economics objective test papers used by the West African Examinations Council and National Examinations Council in the Senior School Certificate Examination was analysed by Olatunji and **Owolabi** (2009). The objective test papers of the two examination bodies were filtered through five, four and three options. The purpose was to use repeated measures design to determine whether the number of options supplied

by examiners to a test item would affect item difficulty and discrimination and the extent to which these will also determine the performance of students. Significant differences were observed in the performances of students exposed to objective tests in Economics with 5, 4 and 3 options. Students recorded the highest performance in Economics objective test with three options. It was further discovered that the number of options significantly affects the difficulty and discrimination of items used in Economics objective tests in SSCE. Fewer options make the test development process less tedious for item writers, increases the tendency for them to supply more plausible options and reduces the time for development and administration of tests. There is also the tendency to improve content coverage and test validity

The major question here and the value discovered in testing is the functionality of options supplied to objective test items. That brings us to the mechanics of supply of options to the objective test item in the course of test development. A good option to an objective test item must attract a minimum number of examinees for it to be seen as functioning. This should not be less than 5% according to Rodriguez (2005). In the bid to ensure that four or five viable options are provided to an option, many examiners bring in ridiculous alternatives that tend to give away the answer. Once the examinees read through, they strike them off immediately and then concentrate on the remaining two or three viable ones. Where an examinee intends to guess, the nonfunctioning options make guesswork very easy.

An objective test in a particular subject not aimed at measuring the reading skill should therefore lessen tests that require more of that skill than those being tested in the

subject. Examiners tend to derail the objectives of assessment by bringing in skills which were not planned or indicated for assessment in a test and unknowingly making them more important than what was originally targeted. The quality of the test is therefore affected by such a practice.

It was recommended as a result of these findings that objective tests with three functioning options should be used in education instead of having one or more non-functioning options in tests with four or five options. The gains in this are many: for the examiner, time of test development; test items tend to be better in terms of difficulty and discrimination and thus the quality of the test stands to be improved; and on the part of examinees, less time is spent reading and difficulty level tends to be more appropriate.

One of the avenues through which the school system adds value to the life of learners is through voluntary membership of clubs or associations. In less formal or informal settings, many students have the opportunity to put some of the things learned in classroom settings into practice or acquire related skills that go with them all through their lives. Ogunjimi and Owolabi (2008) carried out a study on the impact of joining and functioning in environmental conservation club and on the involvement of secondary school students in environmental conservation activities. It was an ex post facto design which compared the levels of involvement of club members to non-members. With a sample of secondary school students in Lagos state, a group comparison carried out revealed that conservation club members performed significantly better than non-members in their knowledge, attitude and involvement in

environmental conservation. No gender differences were however observed. It was recommended that schools should promote interest and involvement in environmental conservation by establishing clubs or associations with this focus.

Topics on the environment have been part of the curriculum of many subjects offered at all levels of education. By taking these actions, it is hoped that students will acquire skills for dealing with issues on the environment. One of the key components of science relates with nature and the changing human environment globally. Climate change has caught global attention because of adverse human experiences resulting from warming, glaciation, greenhouse effect, erosion, acid rain, and such related challenges. The school has been saddled with the responsibility of transmitting knowledge that will mitigate the effects of these conditions as far as they lie within human control. The infusion of climate change topics into the curriculum of junior high schools and students' knowledge of climate change and sustainable development in Ghana was investigated through a sample survey by Owolabi, Gymah and Amponsah (2013). It was found that the curriculum has topics on climate change but these were not clearly indicated in the teaching syllabi for junior high school classes 1, 2 and 3. Students however demonstrated low knowledge of climate change and sustainable development. This suggests that the tendency of making positive contributions to climate change and sustainable development within society after these students complete basic education is limited. This is a value far less than the expected.

With the probability that some graduates of junior high schools may not proceed to the senior high or even higher education, the likelihood that those ones who end with basic education would be able to reasonably analyse and solve problems related to climate change and sustainable development is negligible. The value for acquiring skills of handling natural and man-made conditions occasioning changes in the climate through the basic school system in Ghana was here investigated. Again, the verdict is low and Figures 5, 6 and 7 show the ways human beings contribute to environmental degradation:

Figure 5: Roadside refuse dump

Figure 6: Defecating into the stream

Figure 7: Bush burning and a stranded cow

A cross national study was carried out among academic staff of universities in anglophone West Africa on their climate change and sustainable development knowledge, attitude and practices. Six universities were

sampled in Nigeria and Ghana and a representative sample of the staff from these six universities responded to Knowledge, Attitudes and Practices Questionnaire (KAPQ). It was found that more than 80% of the lecturers indicated that they were conversant with commonly used climate change and sustainable development concepts and terminologies. Items acquired by up to 60.2% of the lecturers were however not checked by them for their contribution to climate change. As high as 15.6% of the lecturers actually felt no need to be troubled by such issues as climate change while 20% acquired items that contribute to climate change and global warming. This is a low score for lecturers on this global problem.

Owolabi and Olorunlero (2013) investigated the extent to which nonliterate adults in Kabba/Bunu Local Government Area of Kogi State in North-central Nigeria have access to basic education and their literacy skills. The survey research design was used in the study and nine adult learning centres were purposively selected across this local government area. This is a local government typical of Nigeria in the sense that western education has been introduced there as it was done in other parts of the country. The opportunity being provided to the people of this local government area is similar to what obtains everywhere else and personnel available to do this have similar training and exposure as those posted to other local government areas in Kogi State and other States in Nigeria. The way those who have been exposed to western education live in the society is expected to be a source of motivation to the illiterates too and this local government area has a good number in civil service, public service and the private sector. An interview schedule was developed and validated for data collection

from 10 randomly sampled adult learners from each selected centre. Records of each of the centres were in addition scrutinised to address questions raised in the study. Results indicated that less than 2% of nonliterate adults in the local government area were enrolled in the centres between 2008 and 2011. Gender disparity was observed in the enrollment figures with the females (4.8% of population) doing much better than males (0.4% of population). This observation tends to suggest that more females might have been deprived of access to western education while they were younger and they were thus in need of literacy as adults. On the other hand, it could be reasoned that a good number of male adults tend to give attention to sustenance rather than participate in literacy classes. In addition, only reading and writing were focused on by the centres and there was no exposure of adult learners attending literacy classes to either vocational or other life skills that could help them function better within their communities. It may be a matter of interest to further probe into the reasons for the low premium placed on literacy. However, as a result of these low observed values, more intensive and skills based adult literacy classes were recommended.

It is not uncommon to hear of adults passing negative remarks about the quality of education received by the present generation of students. They also reminisce over what the quality of life was during their days and bemoan lost values in many respects. It thus became imperative to determine the quality of life among secondary school students. Ogunmola and Owolabi examined quality of life experienced by a sample of 800 secondary school students in Oyo State. Data were collected through the self-report

technique. It was concluded that the quality of life experienced by secondary school students in Oyo State was generally poor. Despite the generally poor quality of life experienced by students in the sampled secondary schools, female students, with a mean score of 100.25, were found to have experienced a significantly better quality of life than their male counterparts with mean 87.75. Students at the junior secondary level (mean 99.37) also experienced a better quality of life compared with those in senior secondary schools (mean 88.23). The general expression of the older generation has however not been confirmed because there has not emerged a basis for comparison yet. The need for an administrative system that will enrich and enhance the quality of life of secondary school students was thus identified.

Stress levels were observed by Owolabi and Amponsah (2011) among fresh undergraduate students in Ghana through a survey among newly admitted students. The extent to which such background characteristics as age, gender, work experience or time spent waiting for admission after secondary education also affect stress was analysed. The Perceived Stress Scale (PSS) was administered on a sample of 398 fresh students of a university in central Ghana. With the use of percentage and the t-test statistics, it was found that 70% of the fresh students had a moderate level of perceived stress while 3.5% had high perceived stress level. It was also found that female undergraduate students had significantly higher levels of perceived stress than their male counterparts. In a similar vein, those who waited for more than two years after completion of high school before they secured admission had significantly different perceived stress level from those

who waited only for two or less years. Employment status before admission or age of the fresh undergraduate students did not account for significant differences in perceived stress levels of the fresh undergraduate students. Research in psychology has shown that a moderate level of stress is necessary for people to do well but high level is detrimental. Those with a high level of perceived stress thus need an intervention. There is need for the university system to carry out stress status test for fresh students and even institute a structure for determining stress levels experienced by its students for intervention as the need arises. This could be part of the general regular check on students' health status.

The 24-hour library service was introduced to facilitate students' preparation for examinations in the University of Ilorin. Owolabi and Omoniyi conducted a study to determine the students' awareness and utilisation of this facility. A sample of 640 undergraduate students from all faculties was selected and they responded to a questionnaire developed and validated for use in data collection. Results indicated that 82.4% of the students are aware of the 24-hour service while 62.4% actually made use of it. There was heavy use of the library both during the day and night hours. From the library records it was found that there was 159% increase in usage during the first semester and this rose to 308% during the second semester indicating a rise in the acceptance and use of the 24-hour library service by students. This seemingly positive response only reveals that most students take academics seriously when examinations are approaching. This itself is also a wrong value system showing intention only to pass examinations, and nothing more.

Outcomes

Quality of teachers trained by tertiary institutions affect the entire society. The perennial high failure rate especially at the school certificate level in core subjects has engaged the minds of stakeholders. Researchers have queried the quality of teachers in charge of preparing and presenting these students as candidates in examinations conducted by the West African Examinations Council (WAEC), National Examinations Council (NECO) and National Business and Technical Examinations Board (NABTEB). Alabi and Owolabi (2013) obtained empirical evidence of the perception of quality of trained teachers by Faculty of Education lecturers that engage in the training of teachers at the university level in Nigeria. A questionnaire was developed and validated to obtain information from a sample of lecturers on the competence and preparation of pre-service teachers in Nigeria. Only 45.2% of the lecturers perceived the preparation of teachers by Faculties of Education of Universities in Nigeria as good. With respect to competence, 42.9% of sampled lecturers perceived that university-trained teachers are at a good level. These results indicate perceived weaknesses in teacher preparation and competence. While the lecturers perceived university trained teachers to be strong in pedagogic skills, they were perceived as weak in communication, teaching aids preparation and subject matter knowledge. The values here are also low.

More recently Olasehinde-Williams, Yahaya and Owolabi (2017) in a pilot study explored the content knowledge and pedagogical skills of secondary school teachers. Focus was on English Language and Mathematics as compulsory subjects for all categories of students. A

representative sample of teachers from the three Senatorial Districts of Kwara State and the students taught by them were closely examined. Data were collected on Teachers' Depth of Subject Content Knowledge (DSCK); Depth of Pedagogical Knowledge (DPK) and Students' Academic Achievement (SAA through tests, observations and vignettes; these were analysed using descriptive and inferential statistics. Findings of the study showed that teachers with B. Sc. demonstrated the deepest DSCK, DPK and DSCPK. Also, both pedagogical and subject content knowledge of sampled teachers were significant predictors of SAA and they accounted for 10.7% of the total variance of SAA. Significant differences were observed between the DSCK and DPK of the sampled SS II English Language and Mathematics teachers with the teachers of Mathematics doing better. These findings raised concerns of profound implications for teacher education curriculum in Nigeria, although the findings remain only tentative until a full-blown investigation is undertaken to either confirm or refute them.

Should everyone pass in examinations? Can everyone pass? Are there people who are not able to learn what we have for them in schools? These are puzzling questions that the science of human learning does not answer directly. The reason these questions are featuring today is to help the teacher, including lecturers of tertiary institutions to query the value they have placed on the learners and the opportunities given them to learn. The response of the teacher to these questions indicate the value they have for the learner and their learning.

Among the theories available for analysing these questions, I have chosen mastery learning. All theories of

learning have the underlining assumption that learning is possible for everyone in the school. It is part of the learning theory principle postulated by Blooms, Hastings and Madaus (1971). Building on this perspective, Owolabi, Daramola and Sowumi (2014) embarked on an experimental study to determine the effect of Teaching and Assessment for Mastery (TAM) on the achievement of SS I students in Economics. This was after the achievement profile of three intact classes of a secondary school was analysed and one class was observed to be consistently far behind in their mean score in Economics. These three intact classes comprising 90 were exposed to TAM in a non-equivalent group post-test only quasi-experimental design. Three out of the four tests developed and validated for use in the study served the purpose of mastery test while the fourth one was developed as post-test. It was found that TAM significantly raised the achievement level of the weakest class from 41.8% to 71.5% and an effect size of 0.65 was obtained. With the weakest of the classes having the highest mean gain, it was concluded that TAM is an effective method for improving the achievement of students in economics. Its use was recommended for SS I teaching and learning in Economics with the possibility of extending to other classes and subjects if found to be having similar outcomes in confirmatory studies.

In a similar way, Elebiyo and Owolabi (2017) found the performance-based assessment to be effective for teaching and learning of Economics among learners in Kwara State. The outcomes of the manipulation of Personalised System of Instruction by Owolabi and Aderinto (2012) affirms its effectiveness for teaching and learning of Mathematics in secondary schools. The uses of

assessment in these studies have adopted the formative-summative paradigm shift.

The time taken by examiners and the enormity of resources committed to mark especially when the scale is institution or nation-wide had engaged the attention of testing experts. Objective tests have gained increasing acceptance (Owolabi 2010) in Nigeria and many other countries. Its widespread use has given rise to the machine-aided assessment and as such we have computer assisted assessment which some have dubbed computer-based test. However, computer-based test is not limited to computer assisted assessment but includes computerised adaptive testing. Computer assisted assessment procedures involve the use of computer and information technology for registration, scheduling, development, standardisation, administration, scoring, grading and releasing of results. The use of computers for one or any combination of these activities is referred to as computer assisted assessment. The administration and marking procedures are particularly critical. Examination bodies and teachers have found great relief especially in the use of computers for scoring of both objective and essay tests. Whereas machine scoring of objective tests has been found to be very dependable, achieving the same level of valid and reliable scores is still a goal to be reached to a satisfactory level for essay tests. Current developments indicate that close to 60% agreement has been established between computer and human scores obtained for essay tests.

The use of Computer Assisted Testing (CAT) has quietly warmed itself into school-based assessment in many countries. Owolabi (2010) reported that the University of Ilorin and other Nigerian tertiary institutions have not only

adopted CAT for admission purposes but they have been using it for internal examinations, especially for the assessment of large classes. These actions came with some challenges, as observed by Owolabi (2010). These have, none the less, turned what had remained a global demand for computer literacy into observable skills in graduates of secondary schools seeking admission into tertiary institutions in Nigeria. The question as from that time was no more whether secondary school graduates have the skills but how competent they are? The bold steps taken then projected the nation beyond the argument that the school facilities were not there to make all graduates from secondary schools computer literate. Though the problem of school facilities is still there in the country, all the examination bodies have blended computer use with their assessment at different levels following what the tertiary institutions have done. The key issue therefore is to know that adding value is greatly required when what obtains is of low value.

Oduwaiye, Owolabi, Onasanya and Shehu (2010) carried out a case study to obtain empirical evidence of research dissemination, utilisation and commercialisation among academic staff of a university in Nigeria. Specific questions on methods adopted as well as problems associated with dissemination, utilisation and commercialisation were addressed. It was found that the priority of university academics was on publishing in journals while use of seminars and conferences were downplayed. In addition, it was discovered that emphasis was placed on dissemination and little was done in the direction of utilisation and commercialisation. As high as 72% of the sampled academics do not engage in the

development of their research outcomes for utilisation and commercialisation purposes. From these results, it is deduced that the career advancement need for publication required for promotion purposes is essentially responsible for the drive to get published. Even with dissemination, 33% of members of the academic staff sampled for the study still have problems. It stands to reason that when meagre salaries are spread between sustenance and investment on research, it will be difficult to proceed to take more out of the salary of academics for investment on development. The development of research results for use, patenting and commercialisation demands heavy investment just as sponsorship of research. The weakness of values obtained in research dissemination calls for urgent national attention.

Through dissemination, utilisation, patenting and commercialization, researchers link up with the community of users of their results. The extent to which academics engage in this is the extent of their relevance and contribution to progress both within their immediate and global community. The thinking, especially in Nigeria, that the ivory tower is a community of egg heads in a world of their own propounding theories which, for most of the time, are unworkable, has long been repudiated in most parts of the world. Today, the thoughts for moving forward the wheel of progress in most advanced industrial societies are generated from the ivory tower. In Nigeria, the taste for foreign products has found its way even to the ivory tower to the extent that colleagues in academics hardly give recognition to the thoughts emanating right under their noses but give utmost regard to those from foreign land. Again, this is a derailment of the nation's education goals.

Discipline in schools, which looks like a secondary matter to academics, was part of my initial attempts at empirical studies as a researcher. A sample survey was conducted on the outcome of social control measures in formal institutional settings among sampled secondary school students in Irepodun Local Government Area of Kwara State (Owolabi, 1981). Students in forms four and five then were found to be less conforming compared with those in forms one and two. Thus, the longer students remained in the formal school system, the less conforming they tended to become. This sounds contrary to expectations that older members of the society are assumed to have imbibed the culture and traditions which they are then qualified to teach younger ones in the form of orientation or initiation. That may happen when older members see themselves as members of the group and the norms are not externally prescribed and supervised. The hidden negative value then was that the more important one becomes, the easier it becomes for a person to flout the law and the higher the tendency to get away with it. People may therefore strive to acquire higher status to enhance the tendency to get away with their involvement in societal vices. This is highly negative as a value which has translated to a great part of the corruption in the system. It has even grown over time and eaten deep into the fabric of the society in Nigeria to the point that countering it has been embedded in the cardinal manifesto of a winning party in a Presidential election.

The school system however tends to have a structure whereby the head in consonance with the teachers represent the highest levels of authority. The school leadership is conferred with authority by the statutory supervising

educational agency, usually the Ministry of Education, represented by the State Schools Management Board of State Universal Basic Education Board. Students do not usually consider that the school they attend belongs to them as their family, community or tribe. The tendency is to therefore just obey mechanically without imbibing the traditions, accepting nor owning them. This sense of ownership tends to determine the readiness of students to conform and transmit same traditions to which they conform to younger members. In this sense, transmission of school rules and regulations as well as school culture and traditions does not take place automatically. Younger junior students therefore tend to conform to school norms and traditions just to avoid punishment only and not because they agree and accept them.

Going through school without accepting the standards for which the school stands and the goals being pursued in relationship with that of the society leads to signs of non-conformity of learners while they are still in school. The long-term effects of this are more serious for their future and that of the society. It is like a crack in the foundation which continues to expand and gives trouble to the entire super structure. Lack of conformity in schools, which seems light at the time it happens, becomes more manifest in the entire life of graduates of various institutions. The highly negative and anti-social behaviours prevalent in public life is a manifestation of the extent to which conformity has been devalued.

In terms of vocational engagement and lifelong learning, extension services have been at the fore front of educating farmers in Nigeria, as it is in most parts of the world. Extension services are used to help farmers do away

with less productive traditional practices and replace these with research proven practices. Considering the myriad of development programmes and initiatives of government ministries, departments and agencies of agriculture, Owolabi and Ogunlade (2009) carried out an evaluation of the extension initiatives of the Kwara State Government. Farmers were sampled from three focal communities representing the North, Central and Southern Senatorial Districts at Lade, Alapa and Osi respectively. Data were collected with the use of Focus Group Discussion. Farmers indicated that the Kwara State Government initiative brought innovations in crop, animal and fish production as well as in food processing which had also been adopted by them after an initial apprehension. There is evidence of a slow assimilation of the changes being introduced into agricultural and food processing practices.

As a follow-up to the response of farmers to their continuous exposure to modern practices for increasing their productivity, Ogunlade and Owolabi (2011) focused on cooperation and collaboration among farmers in Duku-Lade Rice Project arising from a tripartite agreement of rice farmers, a private firm and State Government. The result of this intervention on limitations placed by funds, agricultural inputs and low productivity by providing loans, agricultural inputs and supply of seedlings of improved varieties (FARO 41 and 52) with the demand that farmers operate as cooperative societies on their output was studied. Focus group discussion was used to obtain data from leaders of farmers' cooperative groups and extension workers. Farmers reported that the cooperation brought about great increases in their rice production and had impacted on their

income and standard of living. The long-term effect of such a scheme needs to be further studied.

A meta-analytic study was conducted, after review of a sample of 78 published research reports including supervised thesis, on secondary school students' attitude to, and achievement in science subjects by Ogunjimi, Owolabi, and Sheu (2013). Percentage, Pearson's Product Moment Correlation and the Student's t-test were used for data analysis. Analysis of relationship between students' attitude to science subjects and their performance yielded a correlation coefficient of 0.71. It was further revealed in the study that less than 50% of secondary school students have negative attitude to science subjects.

The proportion of students having interest in and positive attitude to science was low. The teacher and teaching methods used may be queried. The materials and resources available for use may also be another cause. There may also be various other causes which the study did not set out to verify. Beyond what is to be queried, however the need to push this value up is one of the greatest needs in science education in Nigeria today. Value for science education has remained a wish, the will power to translate this into classroom experience has been lacking.

A study was conducted on HIV/AIDS Knowledge, Attitude and Practices was conducted to obtain baseline data for policy formulation in the University of Ilorin by Olasehinde-Williams, F.A.O., Adegboro, B., Adegoke, A. A. **Owolabi,** H. O., & Agbede, A. (2006). Data were collected among students sampled from the existing 8 faculties of the university then and summaries indicated good level of knowledge but negative attitude and practices.

The data generated were used to develop an HIV/AIDS Policy for the University.

Other contributions

In terms of data collection techniques in education, Mr. Vice Chancellor Sir, I have made the following contributions in terms of development and validation of instruments:

1. Validation of Watson-Glaser Critical Thinking Appraisal for use in Nigeria
2. Owolabi Critical Thinking Test
3. Measure of Quality of Life among Secondary School Students
4. HIV/AIDS Knowledge Attitudes and Practices (as part of a research team)
5. Climate Change Knowledge Attitudes and Practices (as part of a research team)
6. Achievement Tests in Economics for use among Senior Secondary School Students
7. More than one hundred tests in educational research, measurement and evaluation (university level)
8. Monitoring, evaluation and quality assurance instrument for National School Health Policy (as part of the national team)
9. Training on item writing skills improvement for academic staff of the University of Ilorin; Ajayi Crowther University, Oyo; Landmark University, OmuAran; Al-Hikma University, Ilorin; and Federal University of Technology, Minna.

Conclusion

While the values generated through educational research, measurement and evaluation tend to be low in such variables as achievement, quality of school life, conformity, research dissemination, continuous assessment practice and others covered in this lecture, learners have generally been found to possess high values in terms of adjustment readiness to learn. While the strong points need reinforcement, the weak points need reformation. In general aspects of weakness tend to outweigh strong points.

Recommendations

Mr. Vice Chancellor Sir, I wish to call attention to the generally low values discovered in my observation of the state of affairs in the education sector in Nigeria. The weaknesses observed deserve a general overhaul, a form of revolution not in the sense used by those that clamour for a violent overthrow of the fabrics of society, but fundamental improvements that transform the entire system. I strongly recommend that a state of emergency be declared on the nation's education and that reforms be instituted that will translate the country from its present giant size only in terms of population and land mass into a scientific, economic and technological giant the world will have to reckon with. In specific terms, I recommend that:

1. Evaluation should be made to play its role in the nation's education by ensuring no decision, policy, programme or practice is put in place or modified except after it has been subjected to evaluation. This should start with the ministries and extend to agencies, departments and institutions as well as non-governmental agencies. Policy somersaults, which have

been regular with the education system, will thereby be checked and well-informed decisions will be taken instead of those emanating from the parochial interests of leaders. This practice should extend to all ministries, departments and agencies nationwide.

2. Democratic principles and promotion of independent, problem-solving, creative, scientific and critical thinking should be brought to the classroom level in schools at every level of the nation's education. These should be integrated into the curriculum and practically pursued as national goals. This warrants training and retraining of educators and stakeholders in the sector.
3. The formative-summative evaluation should be instituted at all levels because it makes not only for promoting mastery learning for all beneficiaries but it also brings about development. All efforts should be geared towards removing one-shot tests used for taking major decisions. A minimum of 60% of total score should be generated from formative assessments in all levels while a higher proportion may be considered for the lower and middle basic levels only.
4. All tests used for learners should be subjected to quality control standards. There are 38 examining bodies at the Basic Education Certificate level and 3 at the Senior School Certificate level without mentioning various external assessments to which the people of Nigeria are exposed and yet there is no regulatory body. There should be a regulatory body for all the examination bodies in Nigeria.
5. Also, only final year results are subjected to quality control through external examiners. What happens for the first three, four or five years before the graduation

year as the case may be remain a departmental affair. There is need for content assessment, regulation and standardisation, as control and quality assurance measures, through the examination office with trained evaluation functionaries within each university for quality assurance purposes.

6. A reform should be instituted from universities in recognition of what obtains in other tertiary institutions to ensure that the route to the top in academic and professional education is delineated from all spheres of knowledge. Even though it may be longer for some and shorter for others, if room is given to all and the opportunity to make progress is made clear, with sufficient flexibility to convert under conditions that are possible, then the disdain with which some certificates are treated will drastically reduce.

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