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Can The Nigerian Child Learn Better?

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Ago-Iwoye

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Introduction

When it dawned on me that I would deliver my inaugural lecture on 11 Jul 2006, I reacted to the information with mixed feelings. I was suddenly confronte with having to make a decision either to accept or reject the invitation. I though I could have it fixed for a later date like all others were doing. But then I realize that, the day 11 July, 2006, is the day the Lord has made therefore I should b happy, rejoice and also present the account of my stewardship in the business o educating the nation to make her children learn better. I thank God Almighty, fo the privilege and honour to deliver the 40th Olabisi Onabanjo University Inaugura Lecture.

I never planned to become a teacher at all. My greatest desire was to become a Mechanical Engineer. As fate would have it, today I am not engineering roads, bridges, machines, etc, but I am busy, engineering the best ways to make the nation's children learn better. In the act of engineering of education, I started my carrier in the university on the 12 September 1983 as an Assistant Lecture and rose through the ranks to become a Professor on the 1st October 2001. Mr Vice-Chancellor sir, my specialization and professional experience for over 2!

years in the act of engineering of education, have put me in a good position to ask whether the nation's children can learn better the school subjects. Hence the topic for this lecture - Can the Nigerian child learn better?

My job is not to present an answer to the question raised in the topic, but to present the facts on ground, that is, the present level of performance of the child. I will attempt also to present the current practice of instruction delivery, and some innovative ideas of what it should be. Then, we will decide whether or not the Nigerian child can learn better in the present condition.

Evidence of Poor Performance of The Nigerian Child

Mr. Vice-Chancellor sir, I have the opportunity to have participated actively in major national assessments of student achievement at both primary and secondary education in Nigeria. Even as a Post Graduate student in the famous Institute of Education University of Ibadan, I was actively involved in the assessment carried out by IEA in over forty-five nations of the world, which Nigeria participated for the first time ever.

In all the results of the assessments the performance of Nigerian children both at primary and secondary school students' performance in Mathematics. IEA study, Nigeria secondary school students that took part in the study (IEA, 1983). was ranked 38th out of the 48 nations that took part in the study (IEA, 1983). Surprisingly, some African countries like South Africa, Ghana and Mauritius were among the first 25 in the ranking.

Results from the reports of the two National Assessments of students' achievement in primary schools did not fair better. A critical look at the scores on the four core subjects (Mathematics, English Language, Social Studies and Science) indicates a decline in the performance across the subjects (Table 1).

Table 1: Test Analysis of Primary 4, 5, and 6 of Four Core Subjects

Class	English		Mathematic		Science		Social Studies	
	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
Four	24.70	8.73	36.95	18.70	40.33	17.93	25.18	8.23
Five	25.33	8.73	36.73	17.78	39.05	18.30	26.48	8.58
Six	20.78	7.63	35.98	16.43	40.40	17.30	21.30	7.35

Source: UBEC: National Assessment 2001

Table 2: The West African Examination Council (WAEC) Performance In Senior School Certificate Examination: Nov/Dec. 1994 – 2003

English Language

Year	Total No of Candidates	Credit A1 – C6 %	Pass P7 – P8 %	Fail F9 %
1994	468116	27.00	34.90	38.10
1995	386896	21.00	41.67	37.33
1996	345183	10.09	36.37	51.52
1997	441730	20.11	40.25	32.25
1998	689245	8.37	21.64	65.66
1999	493555	27.02	38.14	34.82
2000	850479	14.88	34.29	44.07
2001	868626	22.72	34.70	42.56
2002	968810	19.03	36.25	44.70
2003	528347	32.50	35.02	29.20

Mathematics

Year	Total No. of Candidates	Credit A1 – C6 %	Pass P7 – P8 %	Fail F9 %
1994	453884	33.00	44.90	22.10
1995	378548	29.00	47.47	23.51
1996	337767	32.62	43.36	24.01
1997	434111	9.65	40.30	41.93
1998	688400	10.96	24.59	59.94
1999	492587	33.09	36.06	30.83
2000	831728	46.10	31.53	19.97
2001	843982	41.55	34.13	24.30
2002	949139	37.67	33.69	28.63
2003	491365	48.3	29.39	21.59

Source: Statistics Office, WAEC, Lagos

English

Year	Total No. of Candidates	Credit		P7 and below		Cancelled	
		No	%	No	%	No	%
2000	898339	447481	53.63	409556	46.00	3302	0.37
2001	889454	395807	44.5	481284	54.11	12363	1.39
2002	1005823	533086	53.00	432504	43.00	40233	4.00
2003	879584	421057	47.87	424488	48.26	34039	3.87
2004	898379	336842	37.40	503672	56.06	57865	6.44

Table 3: *The National Examinations Council (NECO) Performance in Senior School Certificate Examination*

Mathematics

Year	Total No. of Candidates	Credit		P7 and below		Cancelled	
		No	%	No	%	No	%
2000	898339	441867	49.63	445160	50.00	3302	0.37
2001	884556	358334	40.51	515608	58.29	10614	1.20
2002	1003000	491470	49	467398	46.60	44132	4.40
2003	884144	383454	43.37	464174	52.5	36516	4.13
2004	898379	294648	32.8	535889	59.65	67842	7.55

Source: Statistics Office, NECO, Minna

Evidences of poor performance of Nigerian students abound in the yearly results being published by WAEC and NECO (Table 2 & 3). All the result indicate consistent decline in students' performance in external examinations. The problem of poor performance is not limited to the nations primary an[d] secondary schools, the problem has assumed a serious dimension in the nation['s] higher institutions of learning. Evidences of poor lecturing and very poo[r] performances stare us in the face across colleges, faculties, programmes, an[d] courses. Mr. Vice-Chancellor sir, it seems to me that we have come to accept i[t] as normal, a development that there is nothing to worry about. If we take thi[s] position, it is well since there are theories that support the old idea of norma[l] curve or distributions. The chairman, and distinguished ladies and gentlemen we may have to explain briefly, the concept of normal curve here to really understand the concept. Psychometricians believe that all traits (personal o[r] psychological) are normally distributed among subjects. Traits like height, bod[y] weight, intelligence and even performance or achievement are normally distributed among learners. This concept expects the distribution of performance among a specified group of learners to be as illustrated on the graph in *Figure* 1a
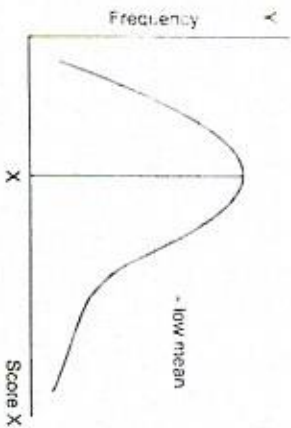
A critical look at the results of the various assessments in both internal and external examinations confirms beyond reasonable doubt that the distributions of the performance have not been normal, rather they are positively skewed (Fig 1b)
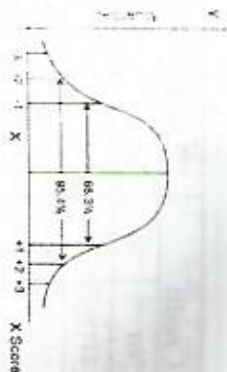
Medium Mean

Fig 1a: Normal Distribution

Fig 1b: Positively Skewed Distribution

Actually, the current efforts being put together by the various stakeholders in Nigeria is to bring the distributions back to normal. Yet, to many nations of the world, this normal distribution is no more acceptable. In the word of Block (1971), there is nothing normal about the normal distribution. By 1963, there was a serious efforts put together to redefine mastery of a skill (Carroll, 1963). The idea was to evolve a strategy, mastery learning strategy that would assist the lecturer to achieve the desired learning outcomes, which the various existing learning theories had failed to achieve. The whole idea was to organize instructions

to promote better learning and performance than normal distribution, a distribution that would be skewed to the left (negatively skewed) (Fig 1c)
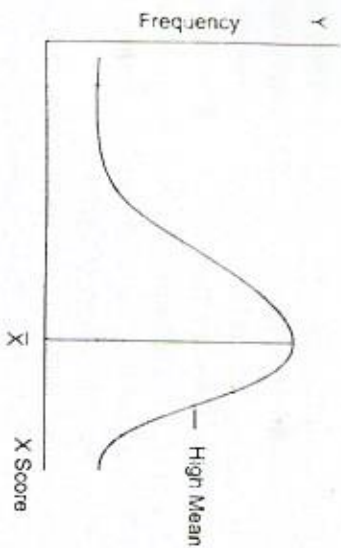
Fig 1c: Negatively Skewed Distribution

Issues in Instruction Delivery

Generally, teaching has been described as the action of a person imparting skills, knowledge or giving instruction. It is seen as "actions of someone (a teacher) who is trying to assist others to reach their fullest potentials in all aspects of development" (Oyedeji, 1998). Teaching is a continuous cyclic process, which involves three main phases:

(i) Pre-teaching phase during which the teacher plans what to teach, materials to be used, how to teach and what evaluation to carry out at the close of the lesson.

(ii) Classroom interactions phase during which there should be purposeful interaction between the materials, the subject-matter, the learner, and the teacher; and.

(iii) Post-teaching phase during which the teacher reflects on the task just completed and feed back his/her observations into the planning of the next lesson.

For any teaching to be effective the three phases have to be implemented effectively and efficiently by the teacher. Closely related to the issue of teaching effectiveness are some categories of variables, which individually or collective

affect the teaching outcome (s). These are identified and grouped as *Presage*, *Process* and *Context* variables. (Oyedeji, 1982, 1987).

The **Presage Variables** are characteristics possessed by the teacher and the pupils / students in readiness for instruction. They include the age, sex, gender, socio-economic status, relevant educational qualifications, relevant experience and other qualities possessed by the individuals.

The **Process Variables** are those activities, in which the teachers and the students engage during the learning process. These variables depend on the ingenuity and creative ability of the teachers to make things happen in the class. The third set of variables, the **Context Variables**, are those conditions to, which the teacher and the pupils / students must adjust, that is, the conditions in which the learning process takes place. The Context Variables include, material or documents, available in the schools like the syllabus, the school subject, and the physical facilities that aid teaching - learning process.

There is no doubt that all the identified variables under the three categories are important for their relevance to an effective teaching – learning process. All the stakeholders in the education of the Nigerian child recognize the importance of these variables.

Individual and institutional studies in the last three decades have focused on ways of improving pupils' / students' performance in school subjects. Some of the studies have constructed, validated and use the several innovative teaching strategies to explain and improve child's performance in and attitudes towards school subjects (Oyedeji, 1982, 1987; Onasanya, 1985; Olubodun, 1986; Erinosho, 1989; Oludotun, 1982). Majority of these have been interested in survey of presage and context variables. Greater percentage of current researches have been focused at general survey and establishing relationships between some presage and context variables and child's performance in school subjects.

In response to the calls for serious interventions of all the stakeholders, a lot of activities had taken place in the education industry in Nigeria. One important feature is the decision to make Nigeria Certificate of Education (NCE) the least qualification required to teach at primary level of education (FRN, 2004; revised). The teachers were then given up to 1998 to upgrade their qualifications. The

teachers responded to the challenge as at year 2000 more than 60% of teachers in the nation's primary schools had acquired NCE as minimum qualifications. In fact, more than 10% of teachers in that category had possessed a university degree or even Masters degrees in various specializations (UBEC, National Assessment Report, 2001).

Apart from the training of teachers, efforts were made to improve upon the existing facilities, while the relevant organ was updating the curricula to make it relevant to the present age. All these were put up to ensure an improved performance among the Nigerian learners. However, if we use the various results presented earlier as our yardsticks, we may conclude here that it has not been well with the education system. Teaching in our nation's schools, seems not to be effective. Then we can ask, what is the problem? Can we ever improve student learning in Nigeria schools? If the answer is yes, then we should ask, how?

I have tried to explain all the efforts, already made by the various organs of the governments both at state and federal level to improve the competency level of the teacher, the teaching-learning process, and ultimately child learning in the school subjects. One clear fact is that it is either we have not addressed the problem from the root cause, or we have not been directing our attention at right direction (s). Bloom (1979) in his efforts to make children achieve mastery of school subjects categorized the entire teaching-learning variables into two viz: Alterable and static variables. According to Bloom, a good and definite understanding of the variables will certainly assist to decide where our focus should be directed at in order to discover a route out of the unfavourable condition.

Alterable Versus Static Variables

Bloom (1972), Block (1963) and Carroll (1963) were the chief proponents of Mastery Learning Strategy. Mastery Learning is an optimistic theory about teaching and learning which asserts that:

i. Any teacher can help virtually all students to learn excellently, swiftly and self confidently.

ii. Under appropriate instructional conditions, almost all, if not all students,

can learn, and will learn well most of what they are taught in schools.

Mastery Learning Strategy aims basically at reducing individual differences in learning by maximizing the learning of slower learners to learn as much as the faster learners, thereby destroying the myth surrounding the normal curve syndrome and its attendant evils. It was in the light of this that Bloom (1976) redefined the **Presage, Process and Context** variables and recategorized them into static and alterable variables. According to Bloom, **Static** variables are such variables or characteristics of the learner, the teacher and the learning environment, which are beyond the teacher to change. The teacher seems incapacitated to change these characteristics in the preparation for an instruction. Such variables or characteristics include: age, gender, intelligence, teacher's qualification, previous knowledge or learning, location of schools, school type, class size and others.

The *Alterable* variables have been identified as such characteristics of the learner, the teacher and the learning environment that can be altered or changed to teacher's advantage in preparation for instruction. Examples of these variables are: quality of instruction, quality of instructional materials, attitudes of teacher and learner, learner-teacher classroom interaction, and time on task etc.

Mr. *Vice-Chancellor* sir, what these people are saying is that instead of dissipating our energy on attempting to change: "static" variables, we need just concentrate extra minutes or hours to make things happen in the classroom if we concentrate on these variables we can alter, that is, the "alterable" ones. This idea therefore forms the basic principle of mastery learning. Carroll (1963) identifies five major variables that affect the quality of learning, and said that the success in learning any task, will depend on the variables. They are:

i.   The learner's' aptitude
ii.   The quality of instruction
iii. The ability of the learner to understand instruction
iv.   Perseverance of the learner
v.   Time *allowed* for learning

We shall now look at the way these learning variables, have been defined by

Carroll.

a.   **Learner's aptitude**
Learner's aptitude has not been defined conventionally as the capacity of an individual learner to learn a given task. However, Carroll's conception of aptitude is simply the 'time required by an individual to attain mastery level of a given learning task...' This implies that a learner will succeed in learning a given task if he/she spends the amount of time needed to learn the task. Therefore, the degree of learning becomes a function of the ratio of the time actually spent in learning to the time needed.

Degree of learning $= f\left(\dfrac{\text{Time actually spent}}{\text{Time needed}}\right)$

b.   **Quality of Instruction**
The quality is a function of presentation, explanation and ordering of instruction. The quality of instruction depends, on the ability of the teacher to:
i.   Plan for instruction
ii.   Execute the plan; and,
iii. Evaluate the instruction (formatively or summatively)

It does mean that the teacher should determine well in advance how best to present a given learning task so that the learners will gain optimumly. The nature of a learning task will normally determine the mode of presentation or execution. A laboratory session will require a different kind of presentation from a classroom teaching session.

One important thing to note concerning the quality of instruction is that it is not defined in terms of what the teacher should do rationally, but in terms of the effect of the instruction on the learners. In other words, the quality of instruction should answer a question such as: Did all the learners or a good majority of them benefit from the teacher's instruction? The quality of instruction will also be assessed in terms of how well the instruction accommodates the differen

learners by making provisions for each category of learners. The summary of it all is that, it is the teacher that determines the quality of instruction, and it is seen as one of the alterable variables that influence learning (Ezewu, 1982).

c. Ability to understand instructions

Ability to understand instruction according to Carroll, is the learner's capacity to understand the nature of the task he is required to learn and the procedures he/she is to follow in learning it. Ability to understand instruction should not be confused with the idea of aptitude in learning. The requirements enabling a learner to understand instruction rest with the teacher to a greater extent and the learner. The teacher should make the materials he/she presents learnable to the learners and the learner on his/her part, should be a normal person capable of using all the sense modalities. Mr. Vice Chancellor sir, it is very clear here that the ability to understand instruction interacts very heavily with the quality of instruction, and thereby taken as a variable that can be altered.

d. & e. Perseverance and the Time Allowed for Learning

Perseverance has been defined, as the time the learner is willing to spend in learning a given task. It therefore implies that, if a learner, according to his/her rate of learning, needed a certain amount of time to master a given learning task but did not persevere so as to spend the time actually needed, he/she is not likely to master the learning task.

Relating this to time allowed for learning, it means that a learner needs a certain amount of time to master a given task, the teacher must therefore allow him/her to spend that time, otherwise, the learner would not master the task. Perseverance and time allowed are important concepts in classroom instruction. Since the degree of school learning has been defined as a function of "time spent" and "time needed", it could therefore be postulated that the better the quality of instruction and the ability to understand instruction, the easier the learning task would be to the learner and the less time he would need in learning it. When all the five variables are keyed into the model, we shall surely have

a better idea and definition of degree of learning. So, the degree of learning is finally defined as a function of

a - Learner's Aptitude
b - Quality of Instruction
c - Ability to Understand Instruction
d - Perseverance
e - Time Allowed for Learning

That is,

Degree of Learning $=$ f (a, b, c, d, e).

Mr. Vice Chancellor, a critical look at the variables that determine the degree of learning will remind us of the issue of Bloom's static and alterable variables. All the identified variables a, b, c, d, and e are considered alterable. We can now understand better the Bloom's emphasis on the use of alterable variables to achieve mastery learning in school subjects.

Research Efforts Based On Mastery Learning Strategy

The basic thesis of my discussion of mastery learning as a teaching strategy is to introduce it as an old yet relevant Philo-psychological theory of teaching and learning and to provide operational strategy for its implementation. Reports of various studies have confirmed the efficacy of mastery learning strategy in Nigerian classroom (Ezewu, 1980; Obanya, 1979; Onasanya, 1985; Olubodun 1986)

Mastery learning strategy has a great deal of educational advantages when compared with other strategies. It leads to improvement of teacher classroom behaviour, and ultimately the performance level of the learner. The success achieved with the use of MLS suggests that the guilt of the nations educational failure can be shifted from the individual learner to the educational system. Like all other child-centred learning strategies, MLS can provide an answer to the problem of poor learning in Nigerian schools.

One major problem of implementing MLS in the nation's schools is over populated classes. Almost all classes in public schools have become impossible

to manage. Apart from this, there are other administrative and attitudinal problems of the teachers. Researchers refused to lose hope in spite of the technical and human problems that incapacitated the full-scale use of all these innovative strategies. Various teaching packages based on the principles of MLS were developed and used to improve students learning of school subjects. Examples of such are the construction and use of learning hierarchy and formative evaluation to improve learning among students (Oyedeji; 1987, Erinosho, 1989).

Learning Hierarchy

An attempt to improve teaching and learning in schools is the development of learning hierarchy which refers to set of specified intellectual skills having, according to theoretical considerations, an ordered relationship with one another (Gagne, 1962). The basic premise underlying learning hierarchy is that failure to learn a particular skill is principally due to lack of essential subordinate skills, and conversely, that learning should be very easy to induce if all relevant subordinate skills are possessed by the learner.

Learning a new intellectual skill is essentially a matter of 'snapping into place' a combination of simpler skills that have previously been learned. For example, suppose that the learner is expected to acquire the skill represented by problems such as this:

"$a - 2b = 14; a = 20$: what is the value of b?" This skill is composed of several simpler skills, including:

1. Substituting numerical values for variables in an equation;
2. "Transposing" terms;
3. Subtracting two – digit numbers; and
4. Dividing by small numbers.

If the learner has acquired the simpler component skills, acquisition of the new skill is primarily, a matter of 'putting them together' in the proper order. When the conditions for learning are properly arranged, the event occurs with a suddenness that is often accompanied by a feeling of pleasant surprise on the part of the learner. When subordinate skills are combined to form a new and more complex skill, they must occur in a suitable sequence. In the example given, the transposing of terms must be done before the subtracting of two –

digit numbers, and the later in the turn must be done before the dividing opera... is carried out. Thus, the combination that constitutes the newly learned ... usually involves learning an ordering of the simpler skills of which it is compo...

Any intellectual skill may be analyzed into simpler skills which mus... combined to bring about its learning. By such analysis, it usually becomes evi... that the simpler skills, which represent the "immediate prerequisites", ... themselves be analyzed to reveal the even simpler skills of which they ... composed (Gagne, 1970). This process of analysis reveals what is call... *Learning Hierarchy*, which is nothing more or less than a chart of ... subordinate skills related to some particular complex skill that is to be lear... An example of a learning hierarchy related to a science topic is given in Figu...

Determine the work done in lifting a specified physical object to a specified position above the floor

Translate concrete verbal statements of relations among physical variables to the expression $W = f, d$

Determine numerical values for the physical variables force and distance

Substitute appropriate values of physical variables in $W = f, d$

Solve simple equati... of the form a=b, c obtain value of a

Measure force (N) with standard instrument

Measure distance with standard instrument

Multiply whol... numbers to obt... a product
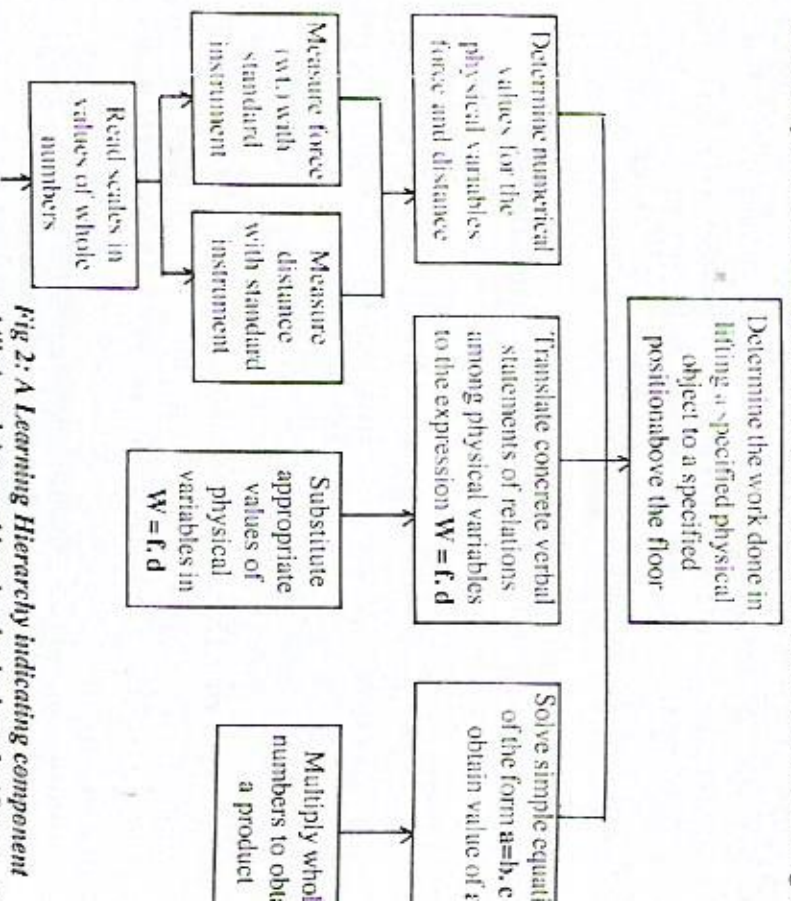
Read scales in values of whole numbers

Fig 2: A Learning Hierarchy indicating component skills in solving problem in physical work. (Gagne, 19...

Results from the development and use of learning hierarchy in Nigerian classroom show that instructions based on validated learning hierarchy hold the possibility of achieving learning for mastery which is the focus of MLS (Oyedeji, 1982; 1987a; 1987b). Learning hierarchy is the best way to describe the structure of any topic, course, or discipline in school subjects. As observed by various works in learning hierarchy, the most serious errors in instructions are likely to occur when the hierarchy remains unrecognized.

Formative Evaluation/Testing

A further attempt to improve student learning using MLS principle is the development and use of formative evaluation / test in the classroom. Formative evaluation or testing is the type of evaluation concerned with improving an on-going educational programme (Bloom, et al. 1971). The emphasis is to determine the efficiency of the context, input and processes of the programme in order to provide feedback to the implementers, teachers or learners. As a teaching strategy, the formative evaluation entails:

1. Selection of context;
2. Breaking the context into several learnable hierarchical units;
3. Formulation of behavioural objectives for each unit;
4. Construction and administration of formative tests at the end of every unit; and
5. Provision of knowledge of results and feedback (Oyedeji, 1982; Erinosho, 1989)

The relevant feedback is incorporated into the plan of operations for modification of procedural barriers and the subsequent improvement of the overall teaching effectiveness. From the standpoint of instruction, formative evaluation focuses on the conjunctive domain and employs specially designated formative tests to facilitate learning as instruction progresses.

Formative evaluation is useful in the mastery learning strategy (MLS). In teaching for mastery, a course is broken down into small instructional units, topics or modules during instruction, formative tests are administered on a regular

(pre – determined) basis to determine whether each student has mastere unit or attained mastery for subsequent progress to more advanced units i instructional sequence. In this approach, formative evaluation helps to students learning and precludes students from proceeding to higher units u mastery of prerequisites skills have been attained (Okpala & Onocha, 1 Apart from assisting in pacing students learning, formative evaluation contr to teaching – learning process by:

i. Defining clearly and specifically the goal of instruction
ii. Monitoring learning progress during instruction.

Formative evaluation is an integral part of teaching – learning pro The instruments of formative evaluation are brief and diagnostic. Each instru tests those skills students must learn from a given instructional unit if they a master the major desired skills. The formative instruments administered a close of a unit, therefore, provides an in – depth picture of what skills student has or has not learned. Such tests help to pace student learning throu the subject rather than just at the end of the course when greater efforts ma too little or too late.

Formative evaluation or testing as a teaching strategy, has been success used in Nigerian classrooms to improve students' learning in various sc subjects (Oyedeji, 1982; 1994; Otuokun, 1982; Erinosho,1989). Most of the re of studies on the use of formative evaluation and testing as a teaching stra concluded that formative evaluation is particularly relevant to the present - Nigeria with her overcrowded classrooms. With the use of this strategy tea should find it more easy to reach the individual learner during instruction. this could assist them (the teachers) to identify the learners' difficulties.

Mr. Vice Chancellor sir, I have attempted to identify and describe only learning hierarchy and formative evaluation / testing strategies because:

a. They are specifically based on the principle of mastery lean strategy; and
b. They have been the main focus of my research activities in course of my engineering of education.

The whole achievements and breakthrough were acknowledged in educational circles, especially among professionals and researchers who are genuinely concerned with improving students' learning. Hopes were raised for better days that, they thought, were ahead. But the whole discovery not too long became an euphoria. Most of the innovative strategies were not found in Nigerian classrooms, the whole ideas rot away on researchers' and library shelves. This development is as a result of some problems associated with the packages, the learning environment and human factors (the teachers).

The greatest of the problems is the stiff resistance to change (direct or indirect) put up by teachers who are to implement the strategies. Nigerian teachers enjoy doing things the way they 'have been doing' them, the way they were taught, and even to use the same old materials, and of course, to have the same unsatisfactory results. Many of us, even after passing through those years of training at all levels of education are yet to grasp the real understanding of what 'teaching' is. Yet, every individual involved in teaching at whatever levels of education needs the basic knowledge of teaching skills. It is therefore necessary to look at the real meaning of teaching in relation to learning.

Learning and the Teacher

When students attend school or enroll in an educational programme, they are assumed to be engaged in learning. Their activities may be highly varied, since they may be learning many different things – how to read a book, how to analyze a social problem, how to view a painting, how to play volleyball, and so on. Furthermore, a person may become a 'student', and therefore be committed to learning, in any number of social contexts - a public school, a college, CESAP / distant learning, or fulltime in University. Despite the variety of these settings, there is evident in all of them a concern for learning. In fact, the central purpose of any programme of education is to promote learning.

Besides the student who is learning, the most important agent in an educational set – up is the teacher. It is the teacher's job to see that the various influences surrounding the students are selected and arranged to promote learning. Generally, the task of ensuring that learning occurs changes with the

age and experience of the learner but remains a constant part of the job of teacher.

Teachers carry out the task of promoting learning by providing instruc... The word instruction may be defined as the set of events designed to ini... activate, and support learning in a learner. Such events must first be plan... (Pre- instructional phase), must be delivered (classroom interaction), and fi... must be evaluated (Post – instructional phase). That the issue of instruct... being discussed again is deliberate. We want to be able to identify the spe... skills, the teachers will need or require to function effectively and efficien... the class knowing fully well that most of the variables associated with degr... learning are *Alterable Variables* that have to do with the teacher. I will then attempt to specify the teaching skills, and assess Nigerian teachers' perform on some of them.

What are 'Teaching Skills?'

I want to define teaching skills as those discrete and coherent activities by teacher which foster student learning.

They have been categorized into three, they are:

1. **Pre-instructional Skills:**
   i. Writing specific and measurable objectives.
   ii. Possessing adequate knowledge of the content.
   iii. Selecting appropriate content.
   iv. Planning cognitive sets (sets induction).
   v. Selecting appropriate teaching strategies.
   vi. Plan appropriate evaluation
   vii. Plan appropriate closure.

2. **Classroom Interaction Skills (during instruction)**
   i. Establish cognitive sets.
   ii. Effective communication
   iii. Using good questioning techniques.
   iv. Classroom management

3. **Post – Instructional Skills**
   i. Analyzing evaluative information
   ii. Making judgment regarding evaluative information.

• The responsibilities of planning and delivering instruction obviously require a practical knowledge of all these teaching skills. At this point, we may have to look critically at the performance of Nigerian teachers on the identified skills.

Assessment of Teachers' Performance on Some Teaching Skills

Permit me, sir, to use some of my personal experiences to describe and discuss Nigerian teachers' performance on some of the identified skills.

1. Knowledge of Content

Mr. Vice chancellor sir, permit me to present here results of some of my studies in the area of teacher's knowledge of the content of the subject matter.

Case 1

The study sought to identify topics in the Nigerian primary education Mathematics curriculum which in-service teachers perceived as difficult teaching topics. The possible effects of teacher's sex and teaching experiences by the teacher were also examined. The subjects were 78 primary schools teachers, who had completed the NCE course on part–time basis.

Results

1. Out of 48 identified topics from the Primary Mathematics curriculum, 21 topics were identified as very difficult to teach.
2. Teachers' sex and teaching experience do not significantly affect perceived levels of difficulty. (Oyedeji, 1992).

As a follow up to the study, the following study was carried out.

Case II

The study was an attempt to assess the teaching competencies of NCE ho... (58) and the Grade Two Teachers (60) who had never gone for any program...
It was carried out to assess the impact of the NCE in-service program...
Mathematics teacher competencies.

Result

Result of the study shows that:

1. Teachers with NCE significantly performed better on such skill... interpersonal, lesson planning and evaluation.
2. No significant impact was found in the teachers' communication, intelle... skills, and personal qualities.
3. Significant differences were not observed on levels of diffic... experienced by the two groups of teachers in almost all the topics in pri... education Mathematics Curriculum (Oyedeji, 1993).

Synthesis

If we attempt to synthesize the results of the two studies, and others in o... subject areas (Oyedeji, 1996; Ahiakwo, 1984; Fagbola, 1984; Okpala, 19... then we may conclude that:

1. Many of the teachers at primary school level do not possess the requ... competency level to teach effectively.
2. Acquisition of additional certificate after Grade Two has not made... significant impact on teachers' competencies.

Mr. Vice Chancellor sir, the results here are not tales, they are real... yearly experiences as a supervisor on teaching practice in this university an... an External Examiner in more than five of the nation's universities, tell the s... story. Many of our teachers and prospective teachers have poor knowledg... the subjects they go out to teach.

Most unfortunately sir, the universities do not help matters either. Discipli... in Faculties of Education are loaded with Courses in the Pedagogy while stud...

register for between 48 – 50 units in the teaching subject. One of the shocking results from the second National Assessment in year 2003 is that the pupils had higher mean performance than the teachers in most of the subjects. Then my topic and question, can the students learn better in that situation? The problem of lack of or poor knowledge of content is a general problem, and it cuts across all professions. Even in this university, it is with us.

ii. Objective Writing

An objective is a clear and unambiguous description of the teachers' instructional intent. An objective is not a statement of what you plan to put into the lesson (content) but instead a statement of what the learners should get out of the lesson. That means that an objective should be expressed in terms of desired student behaviour and content areas.

Results of several studies in the assessment of teachers', in-service and prospective teachers" skills in objective writing reveal that greater percentage of each of the groups could not write objective for their instruction satisfactorily (Oyedeji, 1992; 1996a, 1996b; 2003; Onuosa, 1984). If we go by the definition of objective "as teacher's intention", it implies that many teachers go into classroom without clear vision of what they want to achieve. And using the word of Carroll Weiss, "they may not know when they get there, since they do not know where they are going" (Weiss, 1963)

iii. Questioning Technique, Communication Skills and Interaction Patterns

Several studies have been carried out to analyze the nature, distribution and patterning of verbal discourse in Nigerian classroom (Ogunniyi, 1981; Oyele, 1984; Obuzor, 1981; Oyedeji, 1987; 1993, UBEC, 2003).

a. Questioning

Questioning is basic to good communications. Proper and good questioning is a sophisticated art, one at which few people are proficient despite having asked thousands of questions in their lifetime. Questioning lies at the heart

of good, interactive teaching. It must be at the appropriate level, be appropriate type, and asked at appropriate time, and above all, be wor properly.

Results of the various studies show that:

1. Teachers ask very few questions during lesson, while majority don't question at all;

2. The question that majority ask is "Do you understand?," which automatically followed by student response of "yes";

3. The questions asked by the few teachers are of poor quality, always "factual level". Empirical (prompting, productive, and evaluative) type questions are seldom asked; and

4. The teachers rarely listen to their pupils / students. Many teachers never wait for the learners to finish to say whatever they have to s "Teachers are often so eager to continue their lessons that they interrup cut off learners before they have finished their responses;

b. Communication Skills

Communication is the process by which people exchange informat express their thoughts and feelings. At the heart of the relationship betwe teacher and learner is teacher's ability to communicate. Effecti communication skills are not only the prerequisite for successful work the classroom; they also contribute to making classroom environment liv and enjoyable (Oyedeji, 1998).

Reports of various studies to assess the communication skills of prim and secondary school teachers reveal that:

1. Teachers generally perform poorly in language skill;

2. Many of the teachers exhibit poor knowledge of the communication ski

3. Non-verbal communication skills are not recognized, but the teache unconsciously use them negatively in the class; and,

4. Greater percentages of the teachers are poor listeners. Most of the ti they do not pay attention to learners' verbal and non-verbal activities.

c. **Classroom Interaction Patterns**

The concept of classroom interaction refers to the chain of events, which occur one after the other, each occupying a small segment of time (Flanders, 1970). Study in classroom interaction is therefore a way to bridge the gap between the teacher's good intentions for the class and the behaviour, which actually occurs in the classroom.

The classroom interaction during a teaching – learning process can be verbal or non-verbal behaviours. The teacher may engage the learners in verbal dialogue by asking questions, responding to learners' questions, and so on. The interaction can be non-verbal by giving the learners problems to solve, working problems on the chalkboard, or marking learners' work. There has been an increased interest in research into some of, the process variables which Bloom (1981) considered as alterable ones, in an attempt to understand teaching and learning process in the classroom (Chiacko, 1981, 1983; Olubodun, 1986; IEA, 1981; Oyede, 1984; Joseph, 1983; Bahdola, 1983; Oyedeji, 1993; UBEC, 2003). A synthesis of the results of the various studies reveal that in most of the classes observed:

1. Most of the teachers dominated their lessons;
2. Learners in the studies did not participate actively in the lessons;
3. Most of the teachers had direct influence on the learners with too much emphasis laid on the content at the expense of affective behaviours; and,
4. Positive and significant relationships were observed between learner's behaviour (pupil-talk: initiating / asking questions, and responding to questions) and their academic achievements.

This implies that effective education delivery, at whatever level, is a function of the quality of classroom interactions.

d. **Teacher's Evaluation Skills**

Educational evaluation is a process of identifying the decisions to be made, gathering and analyzing relevant information and presenting summary data that can be used in the process of decision making (Bloom, 1981). When

applied to instruction delivery, it is a process of gathering valid informatio... on attainment of educational objectives, analyzing and fashioning informatio... to aid judgement on the effectiveness of teaching (Okpala et al, 1993). Th... introduction of the practice of Continuous Assessment of learners... achievement in schools some 25 years ago had made a drastic change i... assessment policy in schools. For a teacher to be able to implemen... continuous assessment adequately and effectively, he / she needs to acquir... the following skills:

i. Construction and use of assessment instruments like test (in its variou... types), interviews, questionnaires, checklists, anecdotal records, ratin... scales, observational schedule, sociometric test, homework, and project...
ii. Use of the instruments to collect valid and reliable data from the learne...
iii. Ability to apply relevant statistical package to summarize and describ... the data;
iv. Ability to interpret the results;
v. Ability of present the results in a meaningful way to learner an... stakeholders; and
vi. Ability to use the information to improve the performance of the learne... and the teacher.

Very recent studies that were set to assess the teachers evaluation practice... provided very revealing and worrisome results (Oyedeji, 2004; Ifamuyiwa, 200... Olojede, 2005; UBEC, 2003). A critical synthesis of the various results sho... that:

a. Apart from the essay test that is frequently used by the teacher... and objective test that is sometimes used, all the other instrumen... are either rarely or never used at all
b. When asked for reasons for non-usage of majority of th... instruments, the very three important reasons are:
   a. Low level of awareness.
   a. Lack of adequate training
   a. Some of the instruments are time consuming.

Mr. Vice Chancellor sir, for NCE holders and graduate (professional) teachers with an average of eight (8) years of teaching experience to have given the above reasons for not using recommended assessment instruments is definitely not a good omen for effective education delivery in Nigeria. However, that is the situation in Nigerian schools.

e. **Instruction Delivery Skills**

A lesson consists of the content to be taught as well as the instructional strategy to be employed in teaching it. Instruction delivery involves topics, skills, and activities of the teacher during instructional period. The instructional strategy is the global approach to teaching a particular lesson. There are two basic instructional types: **Teacher-centered** and **Learner-centered approaches.**

The 'Teacher-centered' instructional approaches are the more 'traditional' or 'didactic' ones in which learners acquire knowledge by listening to the teacher, by reading a textbook, or both. In such an approach, the learner is a passive recipient of information. In contrast, student-centered approaches to instruction provide a learning environment that invites learners to actively participate in and help shape their own learning experiences. The two methods are identified and compared under: amount of teacher control, and intent (Table 4).

Table 4: Comparison of Methodologies

Method	Type	Amount of Control	Intent and Unique features
Lecture	TC	High	Telling techniques. Teacher presents information. Student as passive participant
Socratic	Tc	Moderate	Interaction technique. Teacher uses question-driven dialogues to draw out information from students.
Demonstration	Tc	High to moderate	Showing technique. Individual stands before class, shows something, and
Discussion	SC	Low to moderate	Interaction technique. Whole class talks about it. Competitive discussion of topic between teams
Debate	Sc	Low	Telling technique. Competitive discussion of topic between teams student
Role Playing	Sc	Low	Doing technique. Acting out of rol... situations.
Cooperative Learning	Sc	Low	Doing technique. Students work together in mixed-ability group on or more tasks.
Discovery	Sc	Low to moderate	Doing technique. Students follow established procedure in an attempt solve problems through direct experi
Inquiry	Sc	Low	Doing technique – students establi their own procedure for solving a problems through direct experienc
Simulation instruction	Sc	Low to moderate	Telling and doing technique. Stude engage in learning designed to fit t needs and abilities.
Independent study or project method	Sc	Low	Telling and doing technique. Learni carried out with little guidance. It be group or individual project.

Source: Teaching for Innovation (Oyedeji, 1998)

Mr. Vice Chancellor, I like to point out that either of the two instruc... approaches can be used effectively to bring about learning. This though, dep... on the ingenuity of the teachers and some other variables. These other varia... include: the content and objectives of the lesson, teacher characteristics, le... characteristics, and the learning environment. (Moore, 1992).

Results of some recent survey of methods used by primary and secondary school teachers show that:

1. Greater percentage of the teachers used only lecture method for instruction.
2. The most important reasons for not using other methods are that:
   i. They are time consuming
   ii. Lack of adequate knowledge; and
   iii. Large classes.

3. Majority of the teachers spent between one and four hours per week to plan for their lessons. (Olojede, 2005; Oyedeji; 2004; UBEC, 2003)

   I am very sure you would all agree with me that the learners cannot get the best from such conditions. It is therefore not strange to see teachers using lesson plans prepared ten or fifteen years ago to teach the 'technology age' children. This is a common occurrence in education delivery in Nigerian classrooms.

f. **Time on task**
   In schools throughout the world, definite period of time is allocated for each particular learning task. An amount of time for some subjects are fixed.

   Whatever the amount of time allowed by the school and the curriculum, it is likely to be too much for some learners and not enough for others. This is time allowed for learning. But time on task is the actual time spent by the learner on learning a task (Bloom, 1972). This, more or less is determined by the teacher.

   In a survey carried out to determine the percentage of the "actual" time spent on learning by pupils in some Nigerian Primary schools, results revealed that:

   i. Schools spent less than 60% of the time allowed for learning on 'actual' teaching – learning process;
   ii. Teachers spent more than 40% of the time on
      a. Discipline

b. Giving impromptu tests especially when they are not prepared for the lesson (Oyedeji, 2001)

Mr. Vice Chancellor sir, I wish to narrate some specific experiences explain how schools and governments waste learners' time meant for learning.

One military Head of State was to come to Ibadan for a working visit. The Head of State was expected to arrive by 11.00am, so primary and secondary school children were made to line up the street to welcome the visitor. The children spent the whole day on the streets to welcome the Head of State who did not come after all. Even in this university, lectures and examination had to disrupted to welcome Governors and Presidents.

On the part of teachers, they can spend half of the lesson period to discipline just a student. They enjoy telling irrelevant stories to cover up the unpreparedness. Sir, I have witnessed situations whereby teachers and even lecturers in Nigerian Universities had to stop their lesson, and even abandon the lesson and learners in the class because of an offence committed by a student or group of students. What I am saying here is that teachers / lecturers have not been faithful in the use of time allowed for teaching. There is a wide gap between time allowed for learning and the 'actual time' the learner spent on learning a task.

Conclusion

Sir, let me take the opportunity to remind ourselves where we started, and where we are. We have been able to examine the following:

1. Highlights of poor performances or poor learning of the Nigerian child at all levels of education;
2. The old and new schools of thought of distribution of learning.
3. The new concept of learning and categorization of the learning variables; as static and alterable variables;
4. The Carroll's definition of learning as function of:
   i. Learner's aptitude
   ii. Quality of instruction
   iii. Ability to understand instruction

iv. Perseverance
v. Time allowed for learning;

5. The discussion of the various innovative teaching strategies but that are kept safely in shelves in libraries.

6. Human factors; identification and description of the essential teaching skills which are directly related to the alterable variables of Bloom's MLS and;

7. Assessment of teachers' performances on the essential teaching skills.

Mr. Vice-chancellor sir, with the analysis of our teacher's performance on the essential teaching skills, which is still far below the acceptable level. Can we say here that the Nigerian child stands the chance of learning better?

Professional deficiencies of the teachers can be mitigated if the teachers are well disposed to measures being put in place to assist them. Such measures included workshops and seminars.

I have participated as a Consultant or Resource Person in Capacity Strengthening Programme, training teachers in more than fifteen (15) states of the federation. In nearly all the centres, the participants always asked a particular question – what do we have to gain in this workshop? In response to the question, I would explain the goal (s) of the workshop and all others. But alas, their question was not about the knowledge to be acquired, but the financial gains. To them, they came for the workshop to collect their shares of the national cake.

I have always asked them, the question – what is the most important reason for the poor performance in school subjects? The response is always spontaneous, - 'the children do not know anything'. This is a common response by Nigerian teachers to explain the poor learning experienced in the education sector. But we can ask the question: who does not know: is it the learner or the teacher? The basic assumption of education is that: the learner does not know, that is why he/ she is a learner; the teacher knows (by virtue of his /her training, knowledge, experience), and that is why he/she is employed and assigned to a particular school to make the learner know. Definitely, it is the teacher that does not know! The Mr. Vice-Chancellor sir, given the low professional proficiency of our teachers and their poor attitude towards urgent improvement measures, can the Nigerian child learn better?

Acknowledgment

First and foremost, I give all glory, honour and adoration to the omnipotent omniscience God for making today a reality. I have been assisted by people numerous to mention in the process of my academic career. Permit me to pub acknowledge their contributions.

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Mr. Vice - Chancellor, Distinguished Ladies and Gentlemen, I w express my deep appreciation to every one for being here today and fo contributions to the success of the programme:
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