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**TEACHER PREPARATION AND
PARTICIPATION IN CURRICULUM
IMPROVEMENT**

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BY
AKIN OSIYALE



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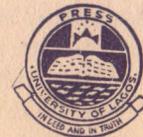
An Inaugural Lecture delivered at the University
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Introduction

The education of the African was already in place before the coming of the European. Scanlon (1964), in one apt summary of indigenous African education, refers "an education that prepared him (the African Youth) for his responsibilities as an adult in his home, his village, and his tribe. In Sub-Sahara Africa, it varied from the simple instruction given by the father to the Bushman Youth of the Kalahari to the complex educational system of the highly organised and sophisticated Poro society of West Africa, with its myriad of ceremonies and countless degrees. The majority of tribes probably fell somewhere between the Bushman and Poro with respect to the educational arrangements they provided for their youth, offering rituals to mark the end of puberty and relying heavily upon custom and example as the principal educational agents" (p. 4-5). However Africa sooner or later than midnineteenth century, experienced some events. Alongside opening of European mission station, there were foreign trading posts, the importation of colonial military forces and a new type of education, western education. Then also came about numerous attempts to adapt and modernise African education. Processes used involve consideration about the roles of the teachers and the teaching learning resources.

The attempts of adaptation and modernisation in African education from the earliest beginnings were given competent attention in part, by authors, in the case of Nigeria *Christian Mission in Nigeria 1841 - 1891: The Making of a new Elite* (J. F. Ajayi, 1965 p 126 - 165) deals with the influence of the mission house in the training it provided in literacy and the crafts. *Government and Mission Education in Northern Nigeria 1900-1919* (Sonia Graham, 1966; p 58-97) deals with the principles that governed work undertaken in education by the Education Department for Northern Nigeria. *Teacher Training in Nigeria* (T. T. Solaru, 1964; p 109) deals in historical terms with teacher training over the period 1842-1962.

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Society, Schools and Progress in Nigeria (L.J. Lewis, 1966; p 159) traces the provision of education in the context of policy of development, from the earliest times up to the 1960's. None of these, however, deals with the curriculum in detail.

In my thesis for the degree of Doctor of Philosophy University of London, in 1974, I examined the curriculum processes in vogue in Nigeria, in the light of past practices and developments. With knowledge and understanding of developments up till 1972 as background, I attempted to identify the significant features of the processes of curriculum change for the future. I also concluded as follows. (Osiyale, A. O. 1974, p 427).

"The single most important item in the recent development in education in Nigeria has been the participation of teachers in curriculum development; and their preparation for participating effectively should not be lost sight of in future development. This should include how to utilise effectively the contributions by the specialists, including the teachers, and implies a re-direction in some cases in the specialist role which in future should aim to free every teacher out of his present bondage arising from his lack of training, and of support for doing his best in adapting education to his own environment and that of his pupils."

The full title for my inaugural lecture:-

"Teacher Preparation and Participation in Curriculum Improvement in Nigeria" has been informed by certain considerations. First, to update a major hypothesis that we defended successfully under very able, competent, thorough, and passionate supervision of Professor L. J. Lewis. Second, to mobilise support of the informed public for tackling an endemic Nigerian disease, that is a gulf between proposals opportunities, and realisations. Third, to give an account of my stewardship, to educational developments in Nigeria, with special reference to curriculum development and with particular emphasis in science education.

All the terms used for the lecture title have their ordinary meanings in discourse, with the exception of the term Curriculum. As we are concerned with adapting and modernising education in Nigeria, we have therefore, endorsed concept

of curriculum first described by Arthur J. Lewis and Alice Miel (1972), to wit.

"a set of intentions (or proposals) about opportunities for engagement of persons - to-be-educated with other persons and with things (all bearers of information, processes, techniques, and values) in certain arrangements of time and space."

Choice of the concept has been informed by its comprehensiveness. It mentions:

- i) intentions or proposals
- ii) opportunities for engagement
- iii) persons-to-be-educated
- iv) with other persons
- v) with things, because those other persons and things have potentials in information, processes etc.
- vi) certain arrangements of time and space.

SIGNIFICANT EVENTS FROM THE EARLIEST BEGINNINGS TO THE PRESENT

In all of aspects of curriculum as described, Nigerian education has received attention of adaptation and modernization, from the earliest beginnings to the present. Important landmarks are the ones considered as watersheds. Following events have been especially significant, from our point of view (Osiyale, A. O. 1974; op cit).

1849- 1959

Ajayi Crowther (1849), first used in an elementary school in Abeokuta Yoruba Primers and Yoruba translations of the Bible, which he had authored.

Anna Hinderer (1853- 70), a woman with little formal education, was firmly behind her husband in establishing the first school in Ibadan. She gave lessons in practical hygiene, first aid, and the practice of the treatment of ailments, as well as knitting and sewing specially for girls. She taught children to recognise objects in the environment and to name them, though first in the pupils' own language. Her lessons were sometimes informal, but often times provided opportunities for pupil-teacher and pupil-pupil interactions.

J. F. Schon (1875--1881). undertook long and arduous labours in the Hausa, Mendi, Nupe and Igbo languages. Hausa Dictionary was in print in 1876. By 1881 he had completed manuscript of a book of parables, stories and proverbs in Hausa, and manuscript of a Grammar of the Mendi language.

Henry Carr (1907), addressed the Diocesan Synod of Western Equatorial Africa, from the vantage position of an accomplished teacher, civil servant, practising christian, and a Nigerian. He cautioned against a seeming despondency of the Missions and urged them towards greater tasks in Nigerian languages, and towards ensuring the restoration of the social position of teachers through intensified training, and to emphasise manual or pre-vocational education. He said of manual or pre-vocational education: "Manual education is necessary as a corrective of the defects of mere booklore; it is not very easy for a boy to detect a false concord, a wrong syllogism or the vice of using a lot of big words which do not make sense. But he must be a very dull lad indeed who cannot perceive that there is something wrong when the different parts of a frame he has cut to measure do not fit at the right angle, or when the door he has constructed cannot shut."

The Department of Education (1911-1912) attempted to put both Government and Assisted Schools under a uniform or comparable standard. Under the Code subjects of instruction were prescribed for various levels in the system. Further elaboration were provided in the form of general objectives, syllabus content and methodology. The role of Manager was defined and regulations concerning school inspection and annual examinations were specified. Teachers were supposed merely to interpret the regulations and syllabuses, and prepare their pupils according to Government examination requirements.

The syllabuses were, at best, adaptations of European experiences to suit local needs. Those prominent among these were the Object Lesson or Science section of elementary school syllabus. The innovation by adaptation was serialised into five, namely: the science of Common Things, Plant Life, Animal Life, The Sky and Air and Surface and Water, Common Things.

There came about a visit to Africa in 1920 by the African Education Commission (Phelps Stokes Report 1922).

This event was confluence in its origin, watershed in its consequences. When World War I ended in 1919, the welfare of dependent countries especially in Africa came to be regarded as concern of, not only the colonial powers, but also of the League of Nations, which later gave rise to the United Nations. Earlier, Missionary efforts from United States of America had received a boost from idea and resources of the Phelps-Stokes Funds out of the latter's experience with the education of Negroes, especially in Hawaii and Philippines. The African Education Commission was thus enpanelled from the Europeans North Americans and Africans, to study and report on education provisions in Africa. Its report issued in 1922, amounts to both an evaluation and recommendation. Educational works in Africa were judged on a yardstick called adaptation to the environment. That is to say, that education provided by the schools should relate to the needs of the individual and the community, whether rural or urban. Adapting education to the individual implied that the pupils should be instructed in "eight elements of individual development", namely, health the use of environment, preparation for home life, the use of leisure time, language of instruction, the conventional subjects character development, and religious life or religion.

The Commission gives its verdict of the quality of education in Southern Nigeria, while it also echoes an earlier report of the Department of Education for the year 1919, and says that a few of the schools were doing effective work, but the large majority were of little value educationally. The Commission Report states further, inter alia:

"A study of the type of educational activities further deepens the disappointment in the schools of Southern Nigeria. There are a few excellent types of schools and one very good system. The effective system is that of the Scottish Missions, with the Calabar boarding schools for girls and Hope-Waddell School for boys. Other schools, which attempted to adapt education needs of the pupils, are the Church Missionary society for girls at Umudioka, near Onitsha, the training school for boys at Oyo, and the Wesleyan Training School for boys at Ibadan."

The boarding schools for girls are practically all fairly well adapted to the training of the young women. The Roman Catholic Girls' school in Lagos is especially well managed. The Slessor Memorial Home for Girls at Aro Chukwu represents a unique type, entirely based on the life of the native girls. With these exceptions and a few others, the larger and more central schools make very little provision for the training of teachers and leaders to improve the condition of the native people. King's College, the only government secondary school has arranged its curriculum to prepare the pupils to pass the Oxford or Cambridge University matriculation. All the larger boys' schools in Lagos are on a similar basis' (op cit, p 157).

Phelps Stokes Report indicates clearly the critical factors in the effective system of education, namely:

- i) well planned organization
- ii) effective supervision
- iii) supply of competent hands to implement the school curricula as planned, competent hands notably include competent headmasters assisted by deputies and teachers
- iv) content of the curricula which include opportunities for manual work
- v) school environment -- physical, social and emotional.

These factors were further used in a commendation of the only "three central and significant government schools" in the city of Kano in Northern Nigeria. It was also noted of the region, that progress in expansion was slow in relation to the quantitative demands.

The high standards used by the Phelps Stokes Commission for evaluating education provisions were not unmindful of the real difficulties at the time. Note its mention of supply of supervisors and teachers of sufficient calibre and in sufficient quantity. In a situation of shortage of high level personnel therefore it might be a herculean task to prepare syllabuses and instructional materials along the line of some six or seven elements of individual developments mentioned earlier. The Community Centre Schools, so well romanticised by the Commission Report, in relation to primary and secondary schools, were yet to be designed and pilot tested on the ground in Africa. However, developments took place along such lines, through in much later years. Much of these was

nourished from the fountain or watershed that the Commission's Report had turned out to be. Examples follow:

1925 Memorandum: Education Policy in British Tropical Africa.

Following the Philips Stokes Report 1922, a conference took place in 1923 on the initiative of the colonial government. It provided inputs for the 1925 memorandum. It became a matter of policy that attempts must be made in African dependencies, to organize and to carry out projects and experiments into the contents and methods of education.

The Omu School: An Experiment in Rural Education (1930-38).

In Northern Nigeria, the Ilorin Native Authority decided in 1930, to embark upon a scheme of development for the whole area, covering roads, health and education. Context for the education scheme was a plan for extending the period of elementary education from two to four years, and to introduce an elementary education curriculum relevant to a rural community. The Omu School experiment was implemented with competent hands of a government officer, assisted by a qualified Nigerian teacher. The pupils acquired improved skills in local crafts including farming, hut building and wood carving. They showed new knowledge of normal school subjects, including arithmetic. They developed improved attitudes to their culture, and exhibited responsible behaviours.

Visiting Teachers Training Project, Toro and Gombe, Northern Provinces in Nigeria, (1936-38)

To change elementary education curriculum the need arose for policy formulation and implementation in areas related. The role of elementary Teacher was supplemented with a form of extension workers function, called visiting teacher. The attempt to widen the school's functions to include agricultural and other social activities necessitated the need for "a new type of visiting teacher with a clear understanding of the part which it is desired that the school shall play, equipped with the special knowledge and skill necessary to help him to do so, and trained in ways and means of becoming himself an active agent in assisting his schools to play their proper part as centres of rural community life and culture" (Baylis, 1940, p 5) The

Visiting Teachers Training Project was first implemented at Toro in 1936, while the related model elementary school was implemented at Gombe. Success was recorded for the visiting teachers project in 1938.

The Helser Project in Northern Nigeria (1930s)

The Helser programme as evaluated (Osiyale, 1974, p 190), sought to establish a community-orientated primary school curriculum, through a project pattern of teacher training, based upon the traditional knowledge and wisdom of the people, and infused with an environmental and social concern for improving the life of the people. It drew upon, and reflected, a variety of sources of contemporary educational theory, identifiable with the advanced thinking of anthropologists, sociologists and educational philosophers, and was action-orientated in what were then new initiatives. This programme especially implies a quality of teacher performance which to say the least, was optimistic at the time. The programme failed to become the model for education it was hoped to be. Clearly, enthusiasm and support for the programme were high at level of conceptualisation, but much less so at subsequent stages of planning, implementation, and evaluation. Secondly, the local environment at the time was lacking in comprehensive understanding of the underlying philosophy of the programme. Thirdly, to implement such programme needs a comprehensive marshalling of the necessary resources, which marshalling was grossly lacking in this case.

Yaba Higher College (1932-39).

The Yaba Higher College that was the first tertiary institution in Nigeria, opened in 1932, with much hope for a supply of high level manpower in science and technology fields, including hope for a supply of science teachers, and for which there was an acute scarcity. From 1935, a preparatory course for science teachers became available and by 1939 seven persons successfully completed the science teachers diploma course. The small output would be the subject of severe criticisms e.g. (Fafunwa; 1971). However the College fulfilled its other missions of apex of education system, when in 1935 it organized a course in the manufacture or improvisation of science apparatus and laboratory equipment. The six months course was taken both

by internal full time students of the college, and science teachers from Assisted Secondary Schools.

An Experimental Approach in Science Curriculum Development in Nigeria (1932-40).

Some twenty or more projects were undertaken in order to evolve science curricula relevant to the socio-economic, cultural and political circumstances of the country. Mr. Faulkner, the Director of Agriculture in Nigeria, conceived of, and pilot tested the place of agriculture in the general education (1932). Mr. Hussey, the Director of Education in Nigeria, countered (1932), under the belief that the real need was to introduce a scientific, and in particular a biological, basis to general education. The personnel for implementing such learning opportunities in schools would be a team, led by a trained science teacher, but must include someone specially trained in agriculture. Mr. Tnorp, a Superintendent of Education, articulated Nature rambles for young children (1934). By this, children were to have opportunities to study plants and animals as members of their own societies, in their own habitats, and not as museum specimens. Mr. Carpenter, Superintendent of Education, pioneered work into how to run a school garden (1935), while another Superintendent of Education, Mr. Forge pioneered work into weather observations. Mr. Mitchell provided hints on methods of producing charcoal in Nigeria, while the target audience of the hints comprised some teachers who were interested in experiments, as well as "any who wish to encourage and develop new industries for their pupils who have left school" (*The Nigerian Teacher*, Vol. 1, No 4, 1935, pp 61-67). Mr. J. Udo-Affia and others (1935), organised teachers' vacation courses at Eket district, as part of nationally co-ordinated effort, with sole purpose of a "campaign in fighting against old methods of teaching, breaches of regulation, general ignorance on the part of rural school teachers, general school management etc." Lecture topics include School Gardening, Object Lessons and Nature Study.

Through these numerous attempts and others not mentioned here, Rural Science evolved in 1940. The related aspects of the one subject - Rural Science, were: Agriculture, Nature Study and Hygiene. The sectors for its implementation were the Elementary School the Primary

Schools, post primary including the Middle School and Teacher Training College.

The 1939–45 World War I disturbed the educational system in large measure. Many of the officials most of who were crucial to the system, were called up for military or other war duties. Some school buildings and the headquarters office were requisitioned. Drastic cuts in expenditure were made. Consequently, for instance much needed inspections were not carried out, and many schools suffered from lack of teachers.

Post War Reconstruction (1945–1949) and Beyond.

Nigerians and the institutions were mobilised for the post war reconstruction, and the subsequent unmatched expansion that was also unmatched for what the effective system of education implies, between 1945 and 1959. *School Syllabus Review (1945–1949).*

Syllabuses were reviewed between 1945–49, also as part of the post war reconstruction. Committees were appointed to revise or to rewrite syllabuses for primary school and training institutions. The Nigerian Union of Teachers participated. However, the results do not mark any significant change in the content of the 1940 syllabuses.

Introduction of Secondary Modern Schools (1953–57)

The Government of the Eastern Region of Nigeria foresaw a system of secondary modern schools predicated upon a belief that the existing grammar type might be unsuited for many children, whom the schools were supposed to serve. Meanwhile, the selection for grammar schools was already causing problems, while the real issues were, the poor standard of primary education in many cases and the variation in standards which reflect also provincial differences. The secondary modern schools of their thinking, should emphasise practical subjects like woodwork and domestic science. In 1957, Secondary Modern Schools were introduced in the Western Region of Nigeria. In 1958, syllabus for use in secondary modern schools issued. This envisaged a 3 year course to provide an alternative to the secondary grammar course and having its curriculum broader than the grammar type. However, the secondary modern schools in most cases

failed to fulfil their initial promise for facilities that should be effective and efficient in respect of competent staff and suitable curriculum. By 1959, the schools were becoming unpopular with some people, especially the parents who believed their own investment of financing the education of their children, had yielded no immediate return.

1959 1969

Hopes for Educational Improvements Shortly Before and After Independence 1960

What has become today typical Nigerian approach to aid decision making, that is, establishing of commission, committee, task force, study group, or conference, emerged shortly before or after independence 1960. The Dike Commission 1959, the Banjo Commission 1960, the Ashby Commission 1960, the National Conference on Curriculum Development 1969 are among the most important. (Osiyale, 1987)

The Dike Commission 1959 was requested among other things, “to investigate the arrangement of the curricula of the primary, secondary, teacher training, commercial and technical institutions” in the then Eastern Region of Nigeria. It recommended measures for improvement, namely: the preparation of books for teachers; syllabus revision in History and Geography, English and Mathematics; completely new course programmes for teaching Art and Music; a complete overhaul of the First School Leaving Certificate examination; improvements in supply of teachers and laboratories.

The Banjo Commission reported on the then Western Region of Nigeria 1960, although its report was printed and circulated a year later. It expressed opinion of unfulfilled goals of primary education, with special reference to character formation, understanding of the communities, making contributions toward community developments, developing curiosity, promoting permanent literacy, and developing manual skills. It warned against creation of ‘unnecessary cleavages in human society’ because of the early selection of children into the traditional grammar school and the secondary modern school. The Commission rested our future hope about quality education solely upon the improvement of teacher education. Furthermore,

it recommended merging of existing secondary modern schools as a forerunner to new Junior Secondary Schools, which would offer a three-year course, that would be comprehensive in scope of the subjects offered as well as in the pupils' ability ranges.

Ashby Report' 1960 is the handwork of a study group which was established by the Federal Government of Nigeria on the eve of Nigeria's political independence and whose purpose was to 'conduct an investigation into Nigeria's needs in the field of post-School Certificate and Higher Education over the next twenty years. However, the Commission extended its scope, and justifiably so into primary and post-primary education, which came under criticisms in aspects, namely; poor standards in all aspects of learning, especially in English, bias in primary and secondary curricula, in favour of literary and academic subjects, and against manual subject and pre-vocational subjects; preponderance of teachers who are inadequate for the work, by virtue of lack of training or inadequate preparation.

Commission recommended measures for improvement, namely: United Kingdom assisted vacation courses to be held in Nigeria, for teachers in English and other subjects; establishment of Grade I Colleges to be associated with university institutes of education; introducing the degree of bachelors in education in all Nigerian universities, with a course structure to consist of four subjects in the first year and three in each of the second and third years, with some pedagogical instruction¹; establishing within all ministries of education a Unit that is also a vigorous public relations department which will create in the public a respect for the teacher and an interest in his work.

The National Conference on Curriculum Development was held in Lagos from 8 to 12 September 1969 under the auspices of the Federal Ministry of Education and an ad-hoc body called Nigeria Educational Research Council. It was significant for a forum to revise old goals of education and to set new ones. Professor C. O. Taiwo assessed the significance of the same conference when he also declared (Taiwo, 1980), thus:

"The conference achieved many results. First, it was a Nigerian conference. It brought together Nigerians from many different walks of life and got them talking on the same theme, the goals of Nigerian education. Producers and consumers discussed topics face-to-face and reached agreement on what they considered should yield the best product. Secondly, the conference attracted many international observers whose experience enriched the deliberations of the discussion groups. Thirdly, the timing of the conference, during a fierce civil war, brought into sharp focus the need for national unit. Considerable emphasis was laid on finding the common elements which should unite the different communities of Nigeria. Fourthly, the report contained a wide range of papers on education, many of them well informed and thought-provoking. Lastly, the conference paved the way for its successors which would concentrate on the content of the curriculum and the methods of implementing the curriculum." In Summary of the aforementioned commissions, study group and conference, we submit, that there were hopes for educational improvement shortly before and after independence in 1960, with particular references to

- i) *Educational Goals*: the redefinition of the goals for education to suit both the needs of individuals and of society, while taking into consideration the changing socioeconomic circumstances;
- ii) *Specific Objectives and Subject Offerings*: the translation of broad educational goals into specific objectives at each sector of education—primary, secondary and tertiary. For secondary education, there was hope in how to meet the needs of youths whose abilities range widely as their interests and aptitudes. There was hope in the pursuit of worthwhile objectives through specific subjects, in Sciences, Languages, Humanities, Technical and Pre-Vocational subjects;
- iii) *Techniques*: new hopes were given to the ways and means of effecting decisions in education, with special reference to the admission of students, assessment and examination of

students' progress, certification of school leavers and student teachers.

- iv) *Wherewithals for Educational Provisions*: the supply of Teachers competent to carry out the new educational objectives and activities, and the availability of facilities and the equipment, were implicit in the new hopes about educational development.

1969-1989

CONSEQUENCES OR AFTERMATH OF RAISED HOPES 1969 TO PRESENT

White Paper(s) And Blue Print(s)

Nigeria has established instruments for implementation. The most important of these are called White Paper and Blue Print. A public relations outfit of Federal Ministry of Education explained the processes and the products, in a signed statement by Professor Sanya Onabamiro (1979), Chairman, Implementation Committee for National Policy on Education. Between 1969 when the Curriculum Conference was held, and 1979 when a blue print was under consideration, a lot of water had passed under the bridge, as they say. There were series of forums to discuss the various issues of education. We now quote extensively from the 1979 statement of Professor Onabamiro:

"It was these successive forums which culminated in the formulation of this blueprint. The first stage was the work of the Curriculum Development Committee of 1969.

The second stage was the work of the seminar held in Victoria Island, Lagos in June 1973, under the distinguished chairmanship of Chief S. O. Adebó where the new National Policy on Education was actually formulated.

This was the most crucial stage, and it was at that stage that we should expect the widest possible enlightened public participation to take place. And that is exactly what took place.

Who and who were at this seminar? As stated above, the chairman was Chief S. O. Adebó. There were more than 80 participants at this seminar, including representatives from the State Ministries of Education, the Univer-

sities, Colleges of Education, the National Union of Teachers, the banned National Union of Nigerian Students; the Christian Council of Nigeria and representatives of the Catholic Religion, the Islamic Religion, conferences of secondary school principals and principals of Teacher Training Colleges, Nigerian Employers Consultative Association, the UNESCO and the Commonwealth Secretariat in London.

This certainly was an impressive body of people competent to plan the restructuring of the Nigerian Educational System. Besides, there were a number of 'giants' on educational matters who participated at this seminar. Chief S. O. Awokoya, Dr. Sam. J. Cooney, Alhaji Ahmed Joda, Alhaji Shehu Bakari, Dr. Ibrahim Tahir, Professor Adetoun Ogunshaye, Dr. J. A. Adegbite, Dr. Tai Solarin, Mrs. T. Sodande and Colonel I. B. Ogundeko were all there.

The seminar recommendations were approved by the Federal Military Government towards the close of 1976 and published in form of a White Paper in 1977. The White Paper is entitled - 'Federal Republic of Nigeria National Policy on Education', and is obtainable from Government Stationary Stores throughout the country at 50k a copy. Paragraph six on Page 3, of this White Paper reads as follows:

"It is government's intention that the far-reaching recommendations set out in the 12 sections of this document should start to transform all aspects of the nation's life without delay. Government has therefore set up a National Education Policy Implementation Task Force which will translate the Policy into a workable blueprint."

"It will also guide the bodies whose duty it is to implement educational policy, and will also develop a monitoring system of the progress of the planned educational evolution, to ensure that infrastructures are prepared and bottlenecks removed in time to facilitate the effective smooth implementation of this National Policy on Education."

That "National Education Policy Implementation Task Force" later re-named National Implementation Committee, was duly set up in September 1977. At the same time, each State set up an Implementation Task Force"

The first task that the National Implementation Committee set out to perform was to tour the 19 States in the Federation to have consultations with the State Task Forces and officials in the Ministries of Education. These tours were started in October 1977 and concluded in June 1978.

Memoranda were solicited from prominent educationists and agencies whose work had a bearing on the National Policy on Education, particularly from those who participated in the National Conference on Curriculum Development in September 1969, and at the seminar at which the National Policy was formulated in June 1973.

A workshop was then held at Kaduna from 18 to 20 September, 1978, attended by 70 participants representing the State Implementation Task Forces, Institutes of Education, the Nigeria Union of Teachers the Nigeria Educational Research Council religious organisations and other interests.

A second workshop was held at Victoria Island, Lagos from 20 to 22 November 1978 and was attended by 87 participants representing the State Implementation Task Forces, the Universities, Colleges of Technology, the National Universities Commission, JAMB, the National Policy Development Centre, the Nigerian Publishers Association, the National Union of Teachers, the National Man-power Board, the National Council for Arts and Culture, the National Educational Research Council and other bodies.

It was felt that a blueprint for the implementation of the National Policy on Education, based on advice and proposals made by such a responsible body comprising the participants of these two workshops should be able to stand the test of time.

The blueprint submitted by the Onabamiro Committee was therefore based largely on ideas received at these workshops. The blueprint was delivered to the Federal Commissioner for Education in Lagos towards the end of 1978.

The document has since gone through two further processes. Top officials in the Ministries of Education throughout the Federation met at Kaduna in February 1979, to study it minutely and to prepare briefs for their commissioners.

Later, a full session of the National Council on Education with all the commissioners attending, took place at Ilorin in March 1979, where views were expressed and comments recorded.

Finally, the blueprint, with the comments of the National Council on Education, was sent to the Federal Executive Council where the ultimate decision on it is now awaited.

Signed:

*Dr. Sanya Onabamiro,
Chairman, Implementation Committee
for National Policy on Education,
Lagos. (1979).*

A Formative Evaluation of White Paper. Federal Republic of Nigeria National Policy on Education 1977 (Revised 1981).

Test the National Policy on Education as a set of proposals against the yardstick of planned changes. By "planned changes" is meant attempts to bring about change which are conscious, deliberate, and intended, at least on the part of one or more agents related to the change attempt. (Chin and Benne, "General Strategies For Effecting Changes In Human System", in *The Planning of Change*, 1969, p. 33).

Three types of strategies for changing are recorded, namely:

- empirical – rational strategies
- normative—re—educative strategies
- power—coercive strategies.

The empirical – rational approach to effecting change, subsumes those specific strategies which assume that persons are guided by reason, and that they themselves will be moved by self interest in determining needed changes. The only obstacles to realising the need for change and the ways and means for realising the changes are ignorance and superstition. Education as a way of disseminating knowledge is strongly advocated. These liberal reformers would also reco-

mmend personnel selection and replacement. Armed with tools and techniques for studying an organisation or institution, the experts might advocate work study and job descriptions for achieving round pegs in round holes. Special training programmes for workers of various kinds would be mounted, in order to equip personnel with modern techniques, such as the applications of researches and evaluation methods. Under what might be called enlightenment, the change agents would employ mass communications - radio, television, and printed media, to convey a clarification of the new idea for the masses. Hoping thereby, to affect their beliefs notions and attitudes.

Normative - Re- Educative strategies for changing rest on the assumptions that man is the architect of his own fortune, that man is an organism in relation to his environment, just as the environment exists in relation to man; that man does not merely perceive a thing or event, but goes further to deal with it as a thing that furthers or defeats his goals. The more the organism that is man acts on a situation, the more he is able to change it in order to finally achieve his goals which are mainly to act on the situation. The approaches under normative - re-educative strategies for changing, include intervention by change agents, who would assist the client - either a person, a small group, an organization, or a community. The client is thus aided to change its environment. What we witness in Nigeria today as Community Development Council, that is an association of interest groups fired with an ideal of improving their communities through self help projects, is a direct example. The change agents might be agencies able to provide support in form of expert advice, like the demonstration of a new technique of using new strains of seeds in order to significantly increase farm yields. The change agents might provide a tractor, road grader and the like, to assist the self help efforts of a community to construct a motorable road to link a group of villages or hamlets. The change agent might provide training in problem solving or action research for selected members of the community associations, who would return to their communities and serve as trainers and demonstrators.

Power - coercive approaches to effecting are also allowed. By power in general is also meant achieving much result

within a short time. The so-called power-coercive strategies emphasise power in form of political and economic sanctions. Those who break the law can be coerced to change by passing a law. The Examinations Malpractices Edict is an attempt to dissuade a moral or immoral teachers and students from circumventing the tried and tested evaluation technique commonly called examinations.

The odd - and - even traffic edict in Lagos is a law passed against Nigerians and others, who indulge in driving privately owned motor vehicles, rather than to take a ride in a public bus. The banning of some former politicians from participating in elections to usher in a new political culture, is an attempt to coerce such persons from contaminating the new utopia of a political culture.

We now qualify the White Paper: National Policy in Education 1981, on the bases described.

Empirical Rational Strategies

Empirical - Rational Strategies in Adult and Non- Formal Education include the following:

- Launch an intensive nation-wide literacy campaign throughout the country and mobilize all available resources to achieve the total eradication of illiteracy
- run classes for workers in form of in-service training, courses and seminars related to the particular occupations and on a continuing basis;
- use radio and television for the development and improvement of education;
- encourage correspondence education and use this service programmes in on-the-job training of teachers; let National Teachers' Institute at Kaduna spearhead such developments and
- provide school health services as parts of the universal primary education scheme.

Normative-Re-Educative strategies for developing secondary education include the following:

- enrol students belonging to other areas or states in every secondary school, in order to develop in our youths a sense of unity, patriotism and love of our country, the idea being, that young pupils in their formative and impressionable years, with different language, ethnic and cultural backgrounds are opportuned to work,

play, live and grow together, to learn to understand and tolerate one another, and thereby to develop a horizon for one Nigeria; Federal Government Colleges should set the pace:

encourage inter-state exchange visits of students, use the discipline of games, and other activities involving team work for moral education;

give training in citizenship by engaging pupils with practical activities, in order to develop in them the qualities of public-spiritedness, voluntary service, sense of responsibility, sense of fairplay, honesty, respect for opposing opinions and views, self-sacrifice for the good of others; youth clubs and organisations and school societies are important in this;

ensure effective administration of secondary education, by the selection of persons of the right calibre for principalship of school, and mounting induction courses for newly appointed principals,

run good and well-staffed inspectorate services, and provide for the continuing education of the inspectors.

Normative — re-educative strategies in educational services include the following:

set up Teachers' Resource Centres where teachers will meet for discussions, investigations, study, short courses and conferences,

establish Educational Resource Centres at State and Federal levels,

set up specialist centres, including Audio-Visual Aids Centres, Language Centres, Science and Mathematics Centres and Workshops,

post career officers and counsellors to post-primary institutions,

Power-Coercive Strategies

Power-Coercive strategies in adult and non-formal education include the exercise of regulation to check mushroom Correspondence institutions of variable standards which have proliferated in recent years, and to check the proliferation of evening classes of dubious standards.

Power-coercive strategies for developing teacher education are in form of prescriptions. The professional teacher has been defined in terms of institutional training, namely: in Grade II Teachers Colleges, Advanced Teacher Colleges, Colleges of Education, Institutes of Education, National Teachers' Institute, Teachers' Centres.

A ban is placed or should have been placed, upon all persons below Grade II Certificate or who are untrained, from posing as primary school teachers.

As master of rhetorics, orator and philosopher, the teacher could be useful in verbalising and articulating the purpose of education in general and in diverse contexts like MAMSER, DFRRI, and Population Education.

The numerous measures referred earlier under National Policy on Education for Nigeria are also measures which emphasise teacher roles, be they in primary education, secondary education, educational services, adult and non-formal education. They support the assertion that the National Policy on Education (1981) is a masterpiece of a change strategy.

THE ISSUES OF TEACHER PREPARATION, AND PARTICIPATION IN CURRICULUM

Science in the new school curriculum is discussed from a perspective which enables us to critically examine the inter-relatedness of intentions or goals, the policies and procedures as they are the directives for realising these goals, the methods and techniques as they are employed in schools the facilities as human and material resources, and the achievements in terms of students learning.

Science Education Goals

The National Policy on Education (Federal Republic of Nigeria, 1977, revised 1981) has put forward a profound statement in science education goals when, it also gives in paragraph 18(c) one secondary education goal to be: 'to equip students to live effectively in our modern age of science and technology'. We have worked with samples of scientists, science educators, administrators and science education students, and sought their consensus of the examples in the specific objectives derived from the National Policy. There is the consensus that the examples fall under three categories, namely:

- a) objectives specific to the Nigerian environment including especially agriculture and health;
- b) objectives specific to nature of science itself;
- c) objectives specific to creativity in learners including technical and manipulative skills;

To equip students to live effectively in our modern age of science and technology means specifically, that the student should be educated to be able to do all of the following about the environment, and which are also examples only;

- i) take correct measures for maintaining a clean environment especially in the present circumstances of widespread filth and pollution
- ii) Show awareness of the nutritious values in the common Nigerian food items,
- iii) offer suggestions for coping with natural disasters like fire, hurricane, flood, drought,
- iv) mention the local raw materials for the major industrial manufacturing in Nigeria;
- v) accept the dependence of man upon the environment;

To equip students to live effectively in our modern age of science and technology means specifically, that the student should be educated to be able to perform the processes and skills of science as the scientist; examples are:

- i) explain in clear sentences the principles learnt in science lessons;
- ii) relate principles taught in science lessons to everyday occurrences,
- iii) explain the working of common gadgets like electric iron, heater, radio, television, eye glasses, camera;
- iv) observe carefully the things in the immediate environment and the changing natural processes
- v) make own hypotheses that would test the truth or untruth in a generalisation,
- vi) criticise major issues in science e.g. natural selection in the evolution of life forms;
- vii) draw correct inferences from simple observation data;
- viii) follow through simple instructions for making an experiment;
- ix) recall the important information in science;

- x) use current measures and units such as metre, kilogramme, second, and their simple derived combinations applicable in day-to-day situations
- xii) discuss freely the principles of biological processes in the human body;

To live effectively in our modern age of science and technology means specifically, that the student must be skilled to transform nature in a creative manner; examples:

- i) apply correctly the tested and recommended techniques for increasing farm yield;
- ii) operate some farm tools and machines,
- iii) carry out simple maintenance of arm tools and machines,
- iv) manipulate common domestic appliances;
- v) carry out simple maintenance of domestic appliances;
- vi) operate school science equipment and apparatus like microscope;
- vii) improvise simple equipments;
- viii) take correct measures for living healthily;

The Science Education Goals for Nigeria have been highlighted above by drawing attention to the implications for environment, nature of science, and creative transformation of nature itself. Evidence abound in literature and other pronouncements in concluding that these three implications are valid. Here are examples.

The Place of Agriculture, Nature Study and Health in General Education

The special place of agriculture in general education was a subject of debate between Department of Agriculture and Department of Education some fifty years back. There was an agreement in the end when Hussey, the then Director of Education summarised. He (Hussey, 1932) concluded that even where the pupils might not be going back to the land it is the more reason "that they should keep in touch with rural pursuits, and maintain an intelligent interest in agriculture, which is the life's work of the majority of their countrymen, and on which the prosperity of the country mainly depends." An intelligent interest in agriculture was practicalised by the students of a Government College, e.g. Ibadan, working the portions of land assigned, harvesting the crops, operating an audited account.

Sophisticated science learning in school laboratories might not be realised in the typical primary school in rural communities. However, they should learn Rural Science or Nature Study. By this is also meant (Education Department, 1940) that:

“The purpose of teaching Rural Science is to create in the minds of children a growing interest in and an increasing knowledge of their own local surroundings. This mental growth will extend to wider spheres as the children grow older and a mind training of this kind, acquired in youth, will be valuable, not only for its own sake in the development of appreciation and knowledge, but also for its ability to bring about desirable changes and improvements in the surroundings and living conditions of the people”

Furthermore, “In teaching this subject the scientific method of observation, experiment and deduction must be adopted.”

Primary Science

Nigeria and several countries in African continent participated in an experimental programme in the 1960's, which attempted science teaching in African primary schools along modern lines, with flexibility for circumstances of rural versus urban, but including low cost and/or improvised teaching equipment!

The aim of the African Primary Science Program (Education Development Centre, 1968) is as stated, namely: “The program especially stresses cultivation of the following attributes: knowledge of a variety of natural and man-made phenomena; the desire and capacity to ask and answer questions for oneself; the ability to co-operate in a common search for knowledge, and to evaluate and discriminate among various sources of information.”

The experimental program, as well as others though originated by diverse agents, were implemented from University centres, in Zaria, Nsukka, Ibadan, Ife, Lagos and from Ministry of Education as centres, e.g. like at Benin. Second generation primary science programmes have since been attempted, e.g. Bendel State Primary Science Project (Urevbu, 1983).

A consensus was reached among Nigerian science educators at a national workshop held at the University of Ibadan in

1971, that any primary science programme should have at its core a number of intellectual skills and processes. Hence, the so called Science – A Process Approach.

Secondary Science.

Science in the secondary has been given new directions through the efforts of the Science Teachers Association of Nigeria, the Federal Ministry of Education and its specialised units or departments, like the Comparative Education Study and Adaptation Centre, CESAC. Integrated Science is an umbrella under which science for junior secondary schools is to be learnt. The Science Teachers Association of Nigeria is the first initiative for integrated science, and the efforts date back to two decades. The emphasis in the intention is in the acquisition of the scientific skills.

To the extent that the intentions in Integrated Science for junior secondary school emphasise the nature of science itself, other subjects must be offered to cater for the remaining two aspects of the National Policy on Education, with special reference to agriculture and health and must be seen in the practical agriculture and health education which are prescribed as compulsory subjects for the Junior Secondary. The aspect of creative transformation of nature and man-made environment must also be seen in context of introductory technology and/or teaching two local crafts.

Science in the senior secondary is a desirable general education component. The National Policy on Education prescribes a science subject as part of the core. The specific nature of Physics, Chemistry, or Biology has been reflected in the objectives at this level. Thus, for example, the conceptual approach is used for CESAC's Nigeria Secondary School Science Project series in Physics, Chemistry Biology, to wit (Ivowi, 1982).

“The philosophy behind the CESAC project stems from a desire to teach conceptual thinking coupled with manipulative skills. One of the consequences of this concept approach (i.e., concept centred curriculum) is in getting at the essential structure of the subject matter through the use of a central theme which permeates the entire instructional material presenting the subject matter.”

Remark on Science Education Goal of Nigeria

The science education goal of Nigeria is consistent with an intention of developing man in all three aspects, namely: ideologically, creatively and intellectually. The ideological emphasis is seen in farming, and other vocational subjects including introductory technology. The mental and intellectual emphasis is in general science, integrated science for junior secondary and physics, chemistry, biology for senior secondary. Until Nigeria has gained experience with implementing successfully the different subject groupings for the different emphases of science, we can only hope that the ongoing different subject groupings will be pursued true to their objectives. Any farther integration attempt is unpracticable and invalid.

Science Education Policies and Procedures.

Science is a compulsory subject at all stages of schooling, primary and secondary especially. Specialised units or departments have been established by Federal Government for production of science equipment, for example, the Federal Science Equipment Factory, PRODA at Enugu. The repair and maintenance of science equipment and training of staff in related skills are the roles of Federal Science Equipment Centre. Governments have embarked upon central purchase of science equipment and workshop tools by centrally ordering for them off-shore in order to reduce cost and minimise waste. The items of equipment were subjected to the inputs by experts in Ministry, University and industry, before a final compilation took place.

Governments support voluntary science bodies by offering grants so that their contributions to science education can be maximised. The Science Association of Nigeria and the Science Teachers Association of Nigeria are among beneficiaries.

Federal Government directs universities to implement a policy of 60 : 40 ratio of science to arts based courses in students admissions. Faculties of Education are to do the same, by implication.

Some State governments have established centres for Science equipment and Resource Centre, e.g., Kano and Oyo States.

Incentives are offered, to science teachers in the form of scholarships and study visits, by governments and foreign bodies including the British Council and Ford Foundation.

The popularisation of science and technology through science quiz, science exhibitions and fairs is organised by voluntary science bodies, with government supports.

Ministry of Education, state or Federal, has scientists on the inspectorate staff who lend support to the science teachers and assist governments to formulate and to implement policies.

Federal Ministry of Science and Technology commissioned in 1983 a study to survey resources in science, mathematics and technical education in secondary school in Nigeria, in its bid to learn the real situation of classrooms in Nigeria. Prof Tunde Yoloye was the chairperson of the study group.

The establishing of specialised units and departments, the issue of government directives from time to time, the co-operation with universities, colleges of education and industry; these and other measures, though many, are of recent origin only, but are clear indications that some government sources are aware of the Science Education goals. The full implementation of these government policies are however another matter to be dealt with later in this lecture.

Science Education Methods and Techniques.

There is a yawning gap between the ideas of programme innovators and the practical implementation of them in the classrooms. Examples of the overwhelming evidence now follow.

For Integrated Science in the Junior secondary school, schools have been enthusiastic to adopt the course materials written by the STAN or the ones by other authors including some science teachers. The level of implementation was reported upon first by leading innovators themselves, e.g. Osiyale (1975), who wrote on the gulf between new educational ideals and the realities of the classroom, Although the teachers were found to be favourably disposed to the ideals of the programme, but many did not marshal the resources of their colleagues in team teaching, nor did they utilise the resources of other persons or things which are bearers of information, processes and techniques in science learning and teaching, Again in the same Integrated Science, recent

observations are to the effect that the merits in activity method of science teaching are not lost on the teachers' minds, but the practitioners of this laudable method are few, and are far between. For instance, a study involving ten schools in Oyo State, 19 Integrated Science teachers and 401 students found (Olawaju and Balogun, 1984), that

- a) students taught through activity method performed better than those taught through lecture method, and
- b) though all the teachers believed in involving students actively in the learning process and using materials in school surrounding to teach integrated science, *but* lecturing and note-taking dominated the lessons, and when activity was engaged in, it took less than fifteen minutes out of eighty.

For Senior Secondary School Science, e.g., CESAC physics, the story above is similar. Thus (Oludotun, 1981) a study of some teachers of CESAC physics showed that the lecture approach is predominant; at the same time pupil activity, problem solving discovery learning and questioning technique were scanty. Elsewhere, Nwokedi (1983) though advocates for laboratory activities where learners are encouraged to participate actively, and concrete experiences are offered for exemplifying the theoretical aspects of physics, but she was quick to remark about "resources are limited, but the most pressing problems have been staff and equipment."

Advocates for progressive teaching methods are plenty. Project method is highly recommended for Biology teaching, because (Odunusi and Nmeji, 1985) the achievements of both high and low ability groups have been found to be more under this method than under the lecture method. Many researches undertaken in Nigeria have also shown that some special techniques would significantly improve students learning, especially the techniques of teaching large classes (Okebukola, 1984), mastery learning, hierarchy structuring of instructional materials and teaching, and laboratory (Ogunleye, 1987).

Students' Achievements.

Students achievements in science have not matched expectations. Here are few pointers.

Enrolments in science subjects have been on a sharp increase but the overall percentage passes in the May/June GCE O/L Examinations once declined sharply. These trends were highlights of a focus address (Esezobor. S. A.) to the 27th Annual Conference of the Science Teachers Association of Nigeria held in Owerri, August 25-30, 1986. Table 1 that is based on May/June GCE O/L Examinations Results in the Basic Science subjects was supplied, although we have extended the picture up till 1987 (Adeyegbe, 1989).

TABLE 1

MAY / JUNE G. C. E. - O/L EXAMINATIONS RESULTS
IN THE BASIC SCIENCE SUBJECTS (ESEZOBOR,
1986; ADEYEGBE, 1989)

YEAR	CHEMISTRY		BIOLOGY		PHYSICS	
	No Sat	% Pass At Credit Level	No. Sat	% Pass At Credit Level	No Sat	% Pass At Credit Level
1979	61,314	36.6	115,589	14.9	23,882	47.8
1980	68,179	39.6	134,691	30.6	27,875	45.8
1982	107,826	17.4	207,781	5.4	49,587	20.3
1983	113,473	12.3	276,990	8.9	60,531	14.5
1984	112,729	25.5	299,034	10.6	62,668	23.4
1985	114,380	19.7	350,476	11.7	63,062	25.8
1986	134,154	39.1	392,075	16.2	79,746	24.8
1987	120,765	27.0	310,501	11.2	76,656	24.7

Students achievements are known to be dependent upon students' characteristics, as well as upon the intervening variables including the classroom factors. Thus for example the level of understanding of some concepts in Physics among 321 form 5 students in ten secondary schools in eight States of the Federal Republic of Nigeria was investigated and found to be in dire need of improvement. In this case (Iwori 1983) the most prominent of the factors were found to be human and material resources available to the students. Meanwhile the utilisation of available resources by teachers is not encouraging in cases, e.g., (Alonge, 1977; Edem, 1988).

Summary of the Situation

Science education goals for Nigeria are very progressive, to the extent that they represent statements of intentions. Three aspects of man are reflected in the implications of the science education goals, namely: ideological, creative/technical, mental and intellectual.

The goals for science education as well as the general and specific objective for subjects are agreed among the better educated including the trained science teachers (e.g Ali, 1984). The level of implementation of these objectives varies widely among the schools and the teachers, but the factors have been shown to be partly in the quality and quantity of resources available to students and their teachers and the utilisation of resources by the teachers.

Resources constitute the most critical factor of curriculum improvement at every level. In a survey of expressed concerns about curriculum, which was undertaken between 1988 and 1989, we discovered that the distributions of concerns about primary education (Aderohunmu and Adesanya, 1989) and about junior secondary education (Adeleye and Afolabi 1989) are comparable as shown in Table 2.

TABLE 2

DISTRIBUTION OF CONCERN ABOUT PRIMARY AND JUNIOR SECONDARY EDUCATION

Category of Expressed Concerns	Primary		Junior Secondary	
	Frequency	%	Frequency	%
1. Goals	9	13.8	8	13.3
2. Policies and procedures	5	7.7	12	20.0
3. Techniques	9	13.8	2	3.3
4. Structures	2	3.1	10	16.7
5. Resources	26	40.0	16	26.7
6. Feelings, Beliefs and Attitudes	12	18.5	9	15.0
7. Values	2	3.1	3	5.0
TOTAL	65	100.0	60	100.0

Resources, as used in the discussion here include the following:

- i) a resource unit, that is "a comprehensive collection of suggested learning and teaching activities procedures, materials, and references organized around a unifying topic or learner's problem, designed to be helpful to teachers in developing their own teaching units appropriate to their respective classes; includes more than any one teacher can implement (Good, 1975 p 496).
- ii) resources with special reference to the community include those agencies and forces which affect children directly or indirectly and which an effective school program can tap for co-operative assistance although they are generally outside the control of school boards or school administrator; e.g, a plantation, a fish pond; a factory; radio broadcasting.
- iii) resources, with special reference to the referral of learners, include individuals, clinics, and community agencies to which students might be sent for specialised service.

In summary, teacher role includes management of resources

The Questions

- i) Ought we to increase teacher roles and so have teacher participate more in the production and assessment of educational materials and teaching aids, the planning and development of curriculum, school buildings and furniture, and evaluation of technical innovation and new techniques?
- ii) Would this increased teacher role result into increased teacher effectiveness in implementation of curriculum?
- iii) What is the best modality for ensuring the new teacher roles?

Related Literature

"Progress, Problems and Issues of School Curriculum In Nigeria 1912-1972" is the title of my doctoral thesis of June 1974 (Osiyale, A. O. , 1974). The purpose of the

study is to examine the then current curriculum processes in the light of past practices and developments. The year 1912 was adopted as the starting point because in that year the Government intention to establish a uniform curriculum was first made explicit. By 1972, concepts of curriculum development involving processes of adaptation and modernisation as well as involving consideration of the roles of the teachers and the teaching-learning resources were being examined in a comprehensive fashion.

With knowledge and understanding about developments up till 1972 as background, attempt was made to identify the significant features of the processes of curriculum change for the future. As to implications for the future, we also wrote as follows (Ibid, p 425-427):

"The recent projects or pilot projects on curriculum emphasise weaknesses in the system and these have been very much of the same nature since 1912. They suggest that special attention needs to be given to: the organisation of the school, the supervision and inspection of work in these school, and the steady supply of trained teachers who must be competent for the implementation.

It does not appear that the system of education has learnt very successfully the lesson of past experiences, while the specialists who have participated in planning curricula have failed to recognise the constraints on the system likely to weaken efforts to introduce new curricula. These constraints include those referred earlier, but including teacher shortage, as well as financial factors affecting teacher supply and equipment."

"It was common in the past for specialists to assume that teachers in schools should have been prepared through training to be in a position to use the new curricula efficiently in the school.

"It should be possible for policy in future years to continue to emphasise contributions by the specialists including teachers for planning the curriculum, at the federal level as well as the state level. The real task for the future should be in assisting every school teacher in implementation of the plans according to own judgement and the judgement of others who should be co-operating with teacher. These others include his fellow teachers, his own pupils, the visiting teacher or supervisor or mobile teacher trainer as the case may be....

"The single most important item in the recent developments in education in Nigeria has been the participation of teachers in curriculum development and their preparation for participating effectively should not be lost in sight; we need a redirection in some cases in the specialist role which in future should aim to free every teacher out of her present bondage arising from her lack of training and lack of support for doing her best in adapting education to her own environment and that of her pupils."

The formative evaluation of the National Policy on Education 1977, revised 1981, has been referred earlier in this lecture. This is to the effect that several measures are being undertaken, for a realisation of the policy goals.

However, evidence abounds to suggest that the school as a unit is yet so assume a posture of an autonomous unit, that is also competent to decide matters of curriculum improvement. An Assistant Chief Federal Inspector of Education, Dr. Charles Dompheh wrote in *The Inspector: Journal of Federal Inspectorate of Education* (Vol. 4, No. 1 p 39 42, 1985) on "The Use of Teaching Syllabuses in Our School." He also lamented the absence of local, school based initiative in pursuit of the stated educational aims and objectives. He said inter alia (p39), 'School teaching syllabuses are important in this respect, but, are not in my experience, given the attention they deserve. They are not found in a large number of secondary schools and teachers' colleges.

"Inspectors may recall that when they visit schools they almost always make the following recommendation: 'The teachers in the department should prepare a comprehensive school (or college) teaching syllabus upon which they should base the weekly schemes of work'. Very often, however, this recommendation is never implemented."

The context of curriculum and role of school are the core of the last reference. There are numerous curriculum packages, in various subjects at various sectors. They were prepared at levels far removed from the school level. The Nigerian Educational Research and Development Council (NERDC) with its adopted, merged units like Nigerian Educational Research Council (NERC), Comparative Education Study and Adaptation Centre (CESAC), Book Development Council, Language Centre has been very productive in release

of curriculum packages. Teachers Organisations especially the Science Teachers Association of Nigeria (STAN) have been extremely productive likewise; National Teachers Institute (NTI) has been active; the West Africa Examinations Council (WAEC) has assumed commanding heights; The Book Publishing Companies in Nigeria have been very competitive; Ministries of Education have not ignored their responsibility as centres for curriculum planning; Universities and Colleges of Education have been active in research and services to community. The point still remains that, those products of all of these bodies constitute a set of possible resources which schools should use for developing their teaching syllabus. The evidence of the inspectorate is to the effect that the schools in the majority of cases, are at a low level of use of such resources. At the same time individual schools are not originating own curriculum packages. *That is the problem*, Curriculum decision making, we must realise includes (Young, 1979).

“the establishment of goals for the entire education program, the selection of subjects through which the goals can be achieved, and the identification of intended learning outcomes and, possibly, content that comprise the unique contribution of each subject. It also encompasses dissemination of the curriculum, planning for implementation of the curriculum, and evaluation of both the curriculum, itself and the processes that produced it.” (Ibid. p 122).

The state of implementation, failure or low level of use of curriculum packages, by teachers in classrooms, should be put to a number of factors, namely, unpreparedness of teachers due to inadequate training or the lack of it; a feeling of alienation in teachers that the decisions were made at a level remote from classroom, and without being consulted, the constraints that the school organisation places upon the teacher role, because the teachers are assumed to be concerned only with classroom instruction, and not to attend meetings and workshops for planning the curriculum; there is also a factor that Hawes (1979, p 5) puts to, that “the process of curriculum development cannot be separated from the machinery for its implementation.” We examine each of the factors for Nigeria.

The establishment of Universities with Faculties or Departments of Education, and the Colleges of Education and Teachers' Training Colleges, has received much boost in quantity. Recent efforts of rationalisation, with special reference to having a second look at their academic programs, with a view to improvement and higher productivity, should be welcome. The National Universities Commission has engaged university teachers with establishing minimum academic standards. The recently established National Commission on Colleges of Education would do likewise in respect of Colleges of Education and Teacher Training Colleges. The National Teachers Institute in cooperation with the National Primary Education Commission could be of assistance too for Teacher Training College. With supports of Governments at all levels — Federal, state, local it should be possible in not too distant a future, to guarantee a minimum level of competence at end of initial training and preparation of professional teacher. As for the alienation of teachers it would seem that the problem here is not severe, considering that teachers at all levels are represented at all levels of decision making. Curriculum packages sponsored by NERDC, NTI, STAN, Ministries of Education are products of the deliberations by teachers representatives. Although the implementations of these decisions in classrooms has been subject of complaints, the main issues are in teacher preparation as well as organisational matters. (Osiyale 1971; 1995). I have commented with hope for future on the question of teacher preparation that is adequate, and given the involvement of teachers in decision making at levels remote from classroom, our remaining problem is in the organisational question of teacher participation in curriculum decision making.

That teacher participation in curriculum decision making, would pose an organisational dilemma, is a fact that is well established in the literature. Young (op ci p 113) introduces us to the dilemma, to wit:

“A disconcerting impasse has been developing with respect to the participation of teachers in curriculum decision making. On the one hand, increased participation has been promoted by teacher's professional associations, accepted in principle by provincial and state departments of education, supported by a considerable body of literature from organisational theory, and tested in local curriculum

projects. But at the same time, recent studies clearly indicate that increased participation in curriculum decision making holds little or no attraction for classroom teachers”.

This celebrated North American evidence also puts the organisational dilemma, in part, to the fact that teachers’ view of their professional duties are shaped by the organisation in which they are employed. Furthermore the teachers did not quite believe in the individual school level nor at the most remote level of province or the equivalent of our own state government level. To wit: (Ibid, p 114).

“Teachers apparently accept the curriculum decision-making function of the school district. In a recent study by Young (1977), 1,268 respondents employed in 174 randomly selected schools identified the kinds of curriculum work in which they wished to participate, and then indicated the level at which they believed the work should be performed. The school district was chosen more frequently than any other level (province, region school and classroom). In addition the school district was the preferred level of six out of seven kinds of curriculum work related to individual subjects: selecting a curriculum, adapting a curriculum, winning support for a curriculum, evaluating curriculum decision making, creating a curriculum (along with the provincial level), and translating a curriculum into instruction (followed closely by the classroom level)”.

By a school district is meant a highly centralised organisation. In a school district, the central office coordinates the various schools and the classrooms within those schools. It is usual for the school district to emphasise articulation and uniformity. The School Management Committee arrangement of Lagos State, the Local Education Authorities of old in all of Nigeria, the Zonal districts in some State Ministries of Education, the Local Government Area of present day Nigeria - everyone of these would approximate in role, if not in actual functions, to the School District concept under discussion.

We have evidence of efficacy of a School District concept. The evidence is an experiential and experimental kind, and about Nigeria. It is, that teacher participation in curriculum decision making at both the district and school levels can be effective. It is contained in Osiyale, A. O. (1975) titled

“The approach of using project as a means for innovation and diffusion in education: the case of white rats project at Lagos 1970-73”. *Journal of the Science Teachers’ Association of Nigeria* Vol. 13, No 2, p 46- 52; April 1975. I quote extensively from the study report: (Ibid, p 46- 48).

“Right from the beginning of this Lagos project concerning directly the schools, it was considered important that the diffusion should emphasise information about the project. Thus ‘we have over a period of several months bred and studied the behaviour of white rats. A limited number of children have visited our workroom and have shown much interest in observing the animals. We think it will be a good idea to share our experiences with more adults (teachers) and children (pupils) and explore what learning situations there would arise. We cannot be sure until we have tried’ that was a statement of the circular letter dated 19 June, 1970 that was sent to headmasters and written by the project organiser. In consideration for formal channels of communication in existence, the organisers for the white rats project sought and received support of the education authorities at Lagos. Thus for instance, after discussing with Mrs. M. Oladitan, Education Officer (Science) of the L.C.C. Education Department, she undertook to help us identify a few schools we might begin the project with. At the same time we had indicated the commitment of the system of education at Lagos together with their schools, should they decide in favour of participation. Thus.... “For a start, our centre will provide pair of white rats (male and female). sample of standard diet we have experimented with, and enough to last you for the first month of the project, and few other sample materials to ensure healthy sanitation. Any school wanting to receive this much must have an approved cage for the animal.” Schools receiving such circular information were the ones that the education official had recommended to us previously. The Headmaster was invited to send two of his teachers to attend a seminar where participants would “observe, discuss the animals, plan how to care for them and to use them in learning situations.”

The seminar that was proposed earlier was held on Thursday July the 2nd, 1970 in the General Science Workshop at College of Education in University of Lagos. Attending were fifteen people from six schools. Three more schools were

added later, and a seminar was also offered for them like the six schools who began first in July. The organisers provided generously for upsetting all expenses participants might have incurred in the course of attending. The seminar itself took place on lines similar to what had already become a model for us, involving active participation by teachers and the course organisers and including case studies of experiences by children. One thing was immediately obvious about the mood of most teachers participating is that they were very much relaxed while they were also busy at work and as photographs taken should indicate. However it was also beginning to be clear by the end of the seminar that schools were different in their preparation for participating in this project. Judging by the issue of the cage that was going to be crucial for success in the future months. Meanwhile some teachers were ready to acquire a new cage, some were proposing to modify cages they possessed before, and that should need modification, some were proposing to get cages constructed in their schools, and some were still to discuss with the headmaster what should happen.

In September of 1970 progress was evident in some cases of the schools participating. Before then Mr. J.S.O Oludotun who was serving as research assistant to the project but was a full time student at the College, had paid several visits to schools, offering advice as necessary and consulting with the organisers, as well as consulting with experts in the University. A circular letter that he wrote dated 30th September, 1970 provided psychological support for the headmaster and for his teachers. 'I wish to thank you and your Science teachers who have participated in the above project. Thanks also for allowing this project to have taken place in your school. The great mark of your cooperation and enthusiasm which were also shown by your teachers cannot be overlooked.' At the same time that this person was looking backwards, he had looked forward toward helping teachers in order to cope with difficulty arising already. Thus 'One of the things realised by the teachers is the alarming rate at which the white rats breed, and they will want to know what to do next. It is hereby recommended that.

- i) the male-rats should be separated from the female rats to reduce the rate of breeding to zero (if possible)

- ii) rats could be given to the neighbouring primary schools to carry out the same project on them;
- iii) rats could be placed on sale to secondary schools wanting to have them for practicals...

Other matters dealt with by Mr. Oludotun were how to use a dye or chemical for marking on rats in order to identify them; keeping of daily charts for weights of the rat. Suggestions were offered, including the one that says the teacher should guide the pupils to give interpretations to the graphs obtained from charts.

In their continuing participation, schools often were in touch with the organisers. Thus for instance Mr. S.O. Isola of Surulere Baptist School wrote on November 1970 saying. "One of our white rats gave birth to five young ones on November 2 1970. But to our surprise, the five young ones disappeared before the following morning." The same author also says in the continuation "Another gave birth to other five young ones on 5th instant which also disappeared before the following morning. We felt they ate up these young ones." "So we do not know what to do about it. We solicit your advice." In such events, schools received a visit as soon as possible, and advice was offered. Though experience of other schools were different. In one case of a school that was situated outside Lagos district but in Lagos State itself their experience was sour in the mouth. Despite the Headmaster who was willing to cooperate but lacked the support of the system by having no resource whatsoever that headmaster was pressured by his fellow teachers to send an urgent message to the organisers on November 6, 1970 that the organiser himself should hurry for helping to solve the many problems they were having. In that case in the end some adults made a feast of the rats literally speaking.

Then in September 1971 the organiser of the project was leaving Nigeria for elsewhere on study leave, and the project no longer enjoyed the continued support from a single central source like before. In view of our earlier support from overseas that was also coming to an end about the same period, irrespective of whether the present organiser was to leave or not.

But between August and September, 1973 all the schools were visited by a representative, in person of Mr. E. Alonge who was a former student at College of Education University of Lagos. Accompanying him on the visit was a government

official. Both the report written by Mr. Alonge on a visit in 1973 together with our record from 1970 to 1971 provide information from which I am now able to grade those schools for success of role as agents for innovation and diffusion in education. Ranging from most successful to least successful those schools are referred here by numbers, with WR4 at the top and WR1 at the bottom, all representing schools in Lagos district, viz.

WR4, WR2, WR5, WR3 WR6, WR8, WR7 WR1
Those numbers were the same used in files kept for the schools.... "

We also concluded (Ibid, p 52) about administrative factors in the effectiveness of schools for carrying out a project, namely :

- 1) Relation between the Headmaster of a school and the education authority as regard to the ability of the Headmaster to guarantee supply of requisite materials.
- 2) The relevant past experience of school.

The Answers to the Questions

The review of related literature enables us to answer our questions, as follows:

Question 1: Ought we to increase teacher role and so have the teachers participate in curriculum decision making?

Answer: Definitely Yes; we ought to. Teacher participation would enhance our investments in education that is approximated to about ₦6 billion Naira annually in institutional recurrent and capital costs of primary and secondary education alone

(See Appendices I & II).

Question 2: Would increased teacher role result into increased teacher effectiveness in implementation of curriculum?

Answer: Definitely Yes; provided the teacher is ready by initial and continual training; and provided the organisational scheme for the participation is put into effect.

Question 3: What is the best modality for ensuring teacher role?

Answer: There are critical factors to this, namely:
i) a functional school district;
ii) a functional resource centre within the district;
iii) an effective linkage of the school district with resource centre (s) and with classrooms.

RECOMMENDATION

*"OD In Schools: A Proposal for Nigeria 1990-2010
Objective and Definition.*

Organisation development (OD) in school districts is a coherent, systemationally planned, sustained effort at system self study and improvement, focussing explicitly on change in formal and informal procedures, processes, norms or structures, using behavioural science concepts.

The goals of OD include *both* the quality of life of individuals as well as improving organizational functioning and performance. (Fullan; And Others; 1978; p 19).

Key Concepts of "OD" -in Local Governments Areas, Nigeria

The Visiting Teacher (c f. Visiting Teachers Training Project, Toro and Gombe Northern Provinces in Nigeria, 1936- 38)

"... a new type of visiting teacher with a clear understanding of the part which it is desired that the school shall play, equipped with the special knowledge and skill necessary to help him to do so, and trained in ways and means of becoming himself an active agent in assisting his (her) schools to play their proper part as centres of 'rural (urban) community life and culture'" (Baylis, 1940 p 5)

Mentoring (c. f visiting teacher is a mentor)

mentoring is

“a nurturing process in which a more skilled or more experienced person, serving as a role model, teaches, sponsors, encourages, counsels, and befriends a less skilled or less experienced person for the purpose of promoting the latter’s professional and/or personal development.

Mentoring functions are carried out within the context of an ongoing, caring relationship between the mentor and protege. (Anderson, 1987).

Functions of Mentoring
(Anderson & Shannon, 1988)

<i>Teach:</i>	<i>Sponsor:</i>	<i>Encourage:</i>	<i>Counsel:</i>	<i>Befriend:</i>
. model	. protect	. affirm	. listen	. accept
. inform	. support	. inspire	. probe	. relate
. confirm/ disconfirm	. promote	. challenge	. clarify . advise	
. prescribe				
. question				

Principles for Establishing Visiting Teachers/ Mentors in School Districts (L.G.A's)

The Panel/Team, with both core and specialised functions of individual members should comprise:

1. Co-Ordinating Visiting Teacher/Mentor
2. Language
3. Mathematics
4. Science
5. Technology
6. Social Sciences/Humanities
7. Physical Education
8. Agriculture
9. Expressive and Creative Arts
10. Headmastership
11. Physical Plants: installation and maintenance
12. Tests and Measurements
13. Public/Community Health
14. Community Development Projects (DFRRI, MAMSER census, population, etc)

15. Records
16. Financial Audit
17. Personnel

Scope for each Team

All schools in the Federation will be serviced under this scheme.

<i>Scope</i>	<i>Primary</i>	<i>Secondary</i>
Nigeria	34,240 *	5,902 *
Average District/LGA	34,240	5,902
	453	453
i.e.	76	13
	=====	=====

Statistics (FME* with Unesco, 1987)*

Costs

Capital Cost

Factors

Buildings (no new buildings, adopt an underutilised building and refurbish; LGA to be responsible)

Transportation (no vehicles, adopt or modify mass transit scheme to meet the needs)

Recurrent Costs:

Average Personal Emoluments per person	N10,000
Add 35% for other Recurrent expenditure, especially material	3,500
	<u>N13,500</u>
Add 10% for exigencies	
Total	<u><u>N15,000</u></u> p a

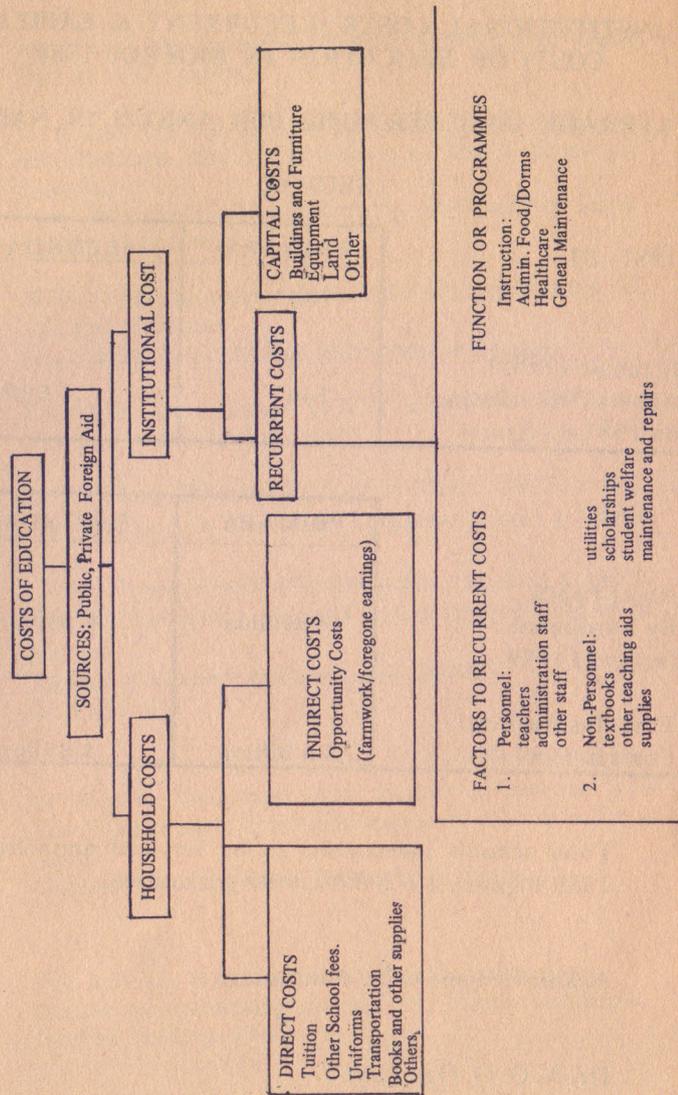
Estimates for Running The Visiting Teachers Scheme Nationwide = ₦15,000 per visiting teacher per annum x 17 visiting teachers per LGA x 453 LGAs.
 Estimates For Running The Visiting Teachers/ Mentors Scheme is approx ₦116 million per annum.

Implementation Agencies for Establishment of Visiting Teacher / Mentors Scheme.

Agent: Federal Government of Nigeria (in pursuance of the 6-3-3= education system).
Agencies: FME, through NERDC, NTI with State Ministries of Education, and Local Governments.
Sub-Contractors: Selected Universities and Colleges of Education Educational Consulting Firms.
Phasing: Start pilot, with visiting teachers training in 1990; all teams are in place by June 1992.

Appendix I

A CLASSIFICATION OF COSTS OF EDUCATION
 (Bridges Research Report Series October 1988, No 3, P 12)



Appendix II

INSTITUTIONAL COSTS (RECURRENT & CAPITAL COST) OF EDUCATION IN NIGERIA 1989

AVERAGE COST PER PUPIL PER ANNUM IN NAIRA

SECTOR

1981-83	PRIMARY	SECONDARY
	80	620
Estimate (1989) Allows 70% inflation on 1981-83 figures	140	1 000

	PRIMARY	SECONDARY
No of Pupils By Enrolment (approx) 1989	14 million	4 million
Total Institutional Costs in 1989 (₦)	1,96 Billion	4 Billion

Total schools investment to be serviced annually, by 1989 Figures, is 6 Billion Naira per annum.

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