RE-INVENTING POLYTECHNIC EDUCATION FOR THE CHALLENGES OF THE NEW MILLENNIUM

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Abstract

The failure of polytechnic education in Nigeria to fully realize the objectives that prompted the establishment of that aspect of tertiary education is the concern of this paper. The growing decline of the relevance of polytechnics and the consequent implication for the development of technologically oriented manpower is highlighted. The government's bureaucratic imposition of career growth limit for the polytechnic graduates is singled out as a major obstacle militating against the full realization of the objectives of polytechnic education. The paper goes ahead to proffer remedies that would lead to re-invention of the Nigeria polytechnics towards the challenges of the twenty-first century.

Introduction

In Nigeria, three distinct institutions are known to constitute tertiary level of education. These institutions are the universities, polytechnics and colleges of education, which are variously established by the Federal or state governments or other private stakeholders. The establishment of these tertiary levels of education is guided by the goals of tertiary education in Nigeria, as enunciated in the National Policy on Education.

The polytechnic which is the main concern of this paper, is guided by specific goals. Apart from the generally subscribed goals for tertiary education in Nigeria. These specific goals as stated by the National Policy on Education (2004) are to:

(i) Provide full-time or part-time courses of instruction and training in engineering, other technologies, applied science, business and management, leading to the production of trained manpower;
(ii) provide the technical knowledge and skills necessary for agricultural, industrial, commercial and economic development of Nigeria;
(iii) give training and impart the necessary skills for the production of technicians, technologists and other skilled personnel who shall be enterprising and self-reliant;
(iv) train people who can apply scientific knowledge to solve environmental problems for the convenience of man; and
(v) give exposure on professional studies in the technologies.

A cursory look at these broad goals would elicit commendations for the Federal Government and other stakeholders in Education for having such laudable vision for the nation's polytechnic educational system.

This commendation has become necessary as Egbo (2005) has recognized education as a valued social artifact that has significant impact on the life chances of beneficiaries and leads to consequential social advancement. Also (Dasgupta, 1993) views education output as a durable capital asset and the possession of such an asset would impact positively on the quality of life in a given society. However, the problems of poverty and other anti-social vices, which the tertiary institutions are fundamentally designed to address is seriously plaguing the socio-political and economic well being of this nation. This is an obvious indication that the tertiary institutions (polytechnic inclusive) in their present structure and format have failed.

According to Samoff (1996), education in Africa, at all levels and in all its forms is in straits and that education systems that were to initiate and sustain transformation by developing new skills and technologies, innovative ideas and new values do not reach the target population. Egbo (2005) has the following to say about the general condition of education in Nigeria:

With particular reference to Nigeria, education is at a crossroads. It is marked by gross under-funding, mismanagement, inadequate infrastructural facilities, overcrowded classrooms, strikes, non-payment of salaries, sporadic closure and progressive
deterioration at all levels.

Also Ajayi (1994) has described our education system as being fraudulent, because of the recognizable wide gap between promise (set goals) and achievement in our education.

Furthermore, in a 2002 report on the role of education in combating the global scourge of HIV/AIDS, the World Bank described education as "the major engine of economic and social development" and as a force that "drives a country future" (P.xviii). In other words, sustainable economic growth of a nation is dependent on its virile educational system. On the other hand, industrialisation has also been recognized, as a veritable tool for sustainable, social, economic and political growth of any nation. Therefore strong industrial base requires the inputs of personnel that are sufficiently imbued with technical and scientific skills. These skills are to be acquired from our technical institutions and the polytechnics. Fortunately, the country is blessed with many polytechnics, but this, has not translated to the availability of the needed manpower required to transform our industrial sector.

Poor infrastructure, where over crowded classrooms hold sway and many others have been identified as possible root cause of poor quality products from these institutions. Therefore, the challenges of twenty-first century calls for proper positioning of our present polytechnics towards effective delivery of statutory function. The concern of this work is to examine the factors creating problems for the polytechnics and proffer solutions that would help to reinvent these institutions.

Contemporary Problems Facing the Polytechnics in Nigeria

There is no doubt that the nation's polytechnics are bedeviled with myriad of problems. Some deficiencies in the area of planning, implementation, quality control / assurance of academic programmes, career growth path and relevance of polytechnic output (graduates) have been recognized as some of the problems constituting serious dislocations to the general effectiveness of the nation's polytechnics as an avenue for creating the necessary skilled manpower in technology.

1. Planning

Goals for tertiary education in Nigeria have previously been highlighted. And these specific goals for the polytechnics that suppose to engender technical and technological growth are quite commendable. However, it has been observed that these goals are mere academic exercises that are not properly rooted on consideration for environmental factors. Most often these goals are at variance with happenings in the immediate environment, as the polytechnics' curriculum lack the necessary ingredient to reinforce existing skills that are indigenous to our technology, for instance, improved methods of fishing in the Niger Delta, production of hides and skin in the core North, and metallurgical services in the South East of the country, should have been considered appropriate when planning the curriculum of these polytechnics. Maduewesi (2005) inferred that the contents of curricula of both formal and non-formal education are best evaluated against the backdrop of their relevance to the culture and environment of the people, and that no education or curriculum can be considered relevant to the development of a people unless it is firmly rooted in their culture milieu.

Another sour point is that the curricula for the polytechnics are not sustainable, due to lack of basic ingredient of forecasting and in-built self adjusting mechanism.

2. Implementation of Academic Programmes in the Polytechnics

Due to lackadaisical attitude, political will of our political leaders and coupled with the poor economic situation in the country, several problems have emerged to constitute a barrier for the smooth implementation of academic programmes in these polytechnics. Most paramount are the problems of quality of staff, quality of students', SIWES, inadequate infrastructure, arbitrary revisal of admission policy that emphasizes 70% for Technology and 30% for Business courses.

a. Quality of Staff

It is quite evident that academic staff and non-academic staff play crucial role in the execution of programmes in the polytechnics. There is no doubt, the quality of graduates is dependent on the quality of staff in these institutions. Academic staffs role is more evident, because of his direct encounter with students through lecture delivery, supervision of projects and counselling. However, it cannot be said that
quality of teaching staff in the present day polytechnics is satisfactory. Especially, when consideration is
given to poor operating conditions that characterize the lot of the teaching staff. More often than not, most
staff do not have access to befitting or comfortable office accommodation, prepare their lectures under
stressful condition, and conduct their research in a most bizarre manner, where facilities are inadequate or
non-existent.

The totality of this problem is emergent of a lecturer who is frustrated, lack self confidence, and
the necessary exposure to embrace the new trend of globalization in academic content. Lack of sponsorship
for seminars, workshop, in-service training and conferences, have combined effect of producing a
lecturer that is rustic and lack proper disposition for research and learning.

Apart from the problems cited above, the issue of indiscipline amongst teaching staff has been
identified as one of the major obstacles militating against the standards of education in the
polytechnics. It is no longer news that examination grades are sold by some unscrupulous lecturers for a
"bowl of pottage" (Okorosaye - Orubite 2003). And that "you must buy my handout / textbook" syndrome,
all in a bid to generate additional income has constituted serious menace in pedagogy.

Also to be mentioned is the exponential rise of student population which has led to abandonment of recommended lecturer ratio of one (1) to thirty-five (35) students. The excess work load occasioned by large ratio of one (1), lecturer to five hundred (500) students would definitely not have salutary effect on the effectiveness of a lecturer. And this no doubt has impacted negatively on the
academic standards of these polytechnics.

b. Quality of Students
That the Nigerian polytechnics are populated by poor quality students cannot be over emphasized. The poor quality is a direct consequence of faulty process through which students are offered admission into
the polytechnics. Even though, the Joint Admission Matriculation Board (JAMB) has statutory
responsibility to conduct entrance into these institutions, the problem of large scale and nation-wide
leakage of examination papers, theft, impersonation and malpractices of all sorts have all combined to
create credibility problem for the Board. The patronage of "miracle centres" known as secondary schools
by students to procure flowering SSCE / NECO results with which they gain admission has
contributed in no small measure to the weak academic background of students, This problem has no doubt caused serious problem for the polytechnics and the wider society, as students who could not cope academically
find solace in cultism and other social vices. There is no gainsaying the fact that students with weak
academic foundation constitute serious problems for lecturers and academic in general. Due to weak
background, most students cannot cope academically, and the resultant effect is the mass failures and
dropout of students experienced in all over the polytechnics. This sad development negates the objectives
of government and other stakeholders for establishing these institutions.

c. Student Industrial Works Experience Scheme
This scheme was established in 1973. It was primarily established as an intervention to bridge
the existing wide gap between theory and practice in engineering and technology in our tertiary institutions.
The scheme was essentially designed to provide the much needed on-the-job practical experience for the
students undergoing all courses that demand exposure in industrial activities during their college
programme. However, despite the laudable intent of the scheme, the implementation of the scheme has
been marred by intractable problems. Inadequate funding has been cited as a major constraint towards the
full realization of objectives of the scheme. Added to this, is the negative attitude of most polytechnic
authorities, perceiving the scheme as an unnecessary distraction, thereby denying the scheme that needed
assistance and attention.

d. Admission Policy
The admission policy prescribed for the polytechnics by the government is that 70% of total
admission should be reserved for students offering courses in technical / technological related areas. While
the remaining 30% are to be allotted to students offering business related courses. The essence of this policy
is to encourage the output of more technical oriented graduates whose services are required in the
industrial sector of the economy. However, it has become evidently clear, that most institutions are in
breach of this guideline, as admission has been deliberately skewed in favour of business courses. Inadequate infrastructure to run courses in technology has often been cited as the reason for introduction of more business courses which do not require interplay of costly personnel and equipment.

e. Examination And Assessment Procedures

The present practice where examination scores are based on continuous assessment, assignment and semester examination is quite adequate and commendable. However, certain sharp practices by lecturer’s and the students alike have helped to ridicule the good intention of the exercise. Lackadaisical attitudes of lecturers towards the grading of continuous assessment have been identified, and this has constituted serious impediment to effective assessment of students. Since these assignments and tests are not moderated, most lecturers result to arbitrary award of scores to undeserving students. This unwholesome practice has led to emergent of poor quality students who graduate from these institutions with doubtful credentials.

f. Career Growth Path for Polytechnic Graduates

In Nigeria today, Polytechnic graduate with HND like his University counterpart enters public service on salary grade level 08. But unlike his University counterpart, has his career growth terminates on salary grade level 14. This discriminatory termination of growth of career has evidently impacted negatively on the psyche of these graduates. This practice has no doubt engendered inferiority complex amongst these cadre of graduates, as it is no longer fashionable for them to proudly give introduction as HND graduates. The obvious implication is that HND is fast losing its relevance, and if this trend is not arrested, it will lead to drastic shift towards the acquisition of University degrees which by its format and present structure will not create the needed atmosphere for technical and technological growth for the industrial sector of the economy.

The Way Forward

From the foregoing and considering the problems that have been so highlighted, it is quite clear that the purposes for which these polytechnics were established are not being realized fully. If these institutions must play this all-important role of nation building and technological development, then some intervening measures must be taken to address the problems as identified. These reforms which would properly position the polytechnics for the challenges of technological development in the twenty-first century are being suggested.

(1) Abolition Of Two-Tier System

The present two-tier programme of studies operated by the polytechnics, which culminate in the award of two distinct diplomas (ND and HND) respectively, have not created much impact on the technological development of the nation. Too much desire for University degrees by these Diploma holders has unfortunately led to the dearth of skilled technicians and technologists needed in the industrial sector of the economy. Bureaucratic adoption of limited career progress for the polytechnic graduates is a major issue confronting the holder of these diplomas. Though palliative measures have been offered as solution, yet the problem is not abating. And since this problem is constituting a serious threat to the nation’s fragile technological development, it has become imperative, that the present academic programmes as offered in the polytechnics should be restructured to enhance its relevance and proper positioning for the twenty-first (21st) century challenges.

First and foremost, the two-tier programmes run by the polytechnics should be abrogated and replaced with a single three year diploma course. The curricula of which should be a harmonized curricula from the present ND, HND and the 100 level university curricula for the various disciplines. To impart the necessary skills, it is suggested that pedagogy at this level should be more of practical. The National Diploma which is expected to be awarded at this level should be of recognizable standard which can qualify the holders of such diplomas secure admission into 200 level of a degree programme in the university. There is no doubt, a graduate who passes through these phases will definitely emerge as a thoroughbred professional with high intellectual capability, right attitude and the necessary skills to face challenges, and to contribute meaningfully to the socio-economic cum technological development of the country.
Another issue to be considered is the remuneration for graduates at the various levels. This is of paramount importance, because the success and sustainability of this idea will depend essentially on proper salary placement. In this regard, it is contemplated that the holders of National Diploma should be placed on salary grade level 07 as the entering point in the civil service. A fresh University graduate with ND background should be placed on level 8 but with enhanced steps. There is no gain saying that implementation of this proposal will lead to eradication of unhealthy rivalry, misconception and discrimination that have long existed between the university and the polytechnic graduates.
(2) **Introduction of Courses That Would Create Self Employment for Polytechnic Graduate**

The major problem confronting our society today is grave, unemployment faced by teeming graduates of our tertiary institutions. This hydra-headed problem is exacerbated by the fact that most qualifications paraded by these polytechnic graduates are not tailored towards self-employment and this has no doubt created problem of unemployment with its attendant social vices. Courses which will ultimately lead to employment of graduates should be given utmost priority. Certain courses, such as Fashion and Clothing Technology, General Art, Catering & Hotel Management, Welding and Fabrication, Polymer Science, Foundry Technology, Printing Technology, Fishery, Agriculture and many others should be introduced and be given pre-eminence over and above other courses. The National Board for Technical Education (NBTE), the agency that regulates the programmes and curricula for Polytechnics, should as matter of urgency review the existing curricula holistically to accommodate inputs that would make the polytechnics graduates employer of labour rather than job seekers. This policy shift, if properly implemented, would produce polytechnic graduates who are not certificate conscious but professionals who have genuine desire to excel in their chosen careers.

(3) **Funding and Provision Of Infrastructure Facilities**

The fact that the polytechnics are not properly funded cannot by over-emphasized. The budgetary allocations to these institutions are grossly inadequate, thereby resulting in the paralysis of the entire system. Egbo (2005) posits that no system can function effectively without adequate financial support, no matter how noble its objectives. Therefore, for the polytechnics to sustain its relevance and create the necessary impact in the training of the skilled manpower, the institutions must be well-funded so as to provide the necessary infrastructures needed for training in these polytechnics. The present effort of Education Training Funding (ETF) in granting financial assistance to tertiary institutions is encouraging and highly commendable. However, due to high financial inputs needed for procurement of equipment, ‘tools, and other technical materials, it is recommended that substantial amount of ETF through appropriate legislation should be committed to the overall development of the polytechnics. In this regard, it is suggested that 40% of total ETF should be devoted for polytechnic education.

(4) **Polytechnics and Globalization**

The world now is a global village. As Power (2000), Apologun (2005) and Madueweisi (2005) suggest, globalization present multiple challenges to education in general and curriculum planning in particular. Within the Nigerian context, the main challenge is how to plan a curriculum that is specific to Nigerian context while retaining international relevance Apologun (2005). In reinforcing this assertion, Egbo (2005) suggested that while cultural relevance must remain as one of the major goals of education in Nigeria, certain knowledge such as information and communication technology (ICT) are mandatory to facilitate immersion into and participation in the world community. It has become evident, that information and communication Technology (ICT) is a prerequisite for successful living in an information driven world, and therefore ICT should be integrated across the polytechnic curriculum. Internet services should be provided in these institutions to enable students and lecturers to update their knowledge in their respective areas.

(5) **Research and Development**

It has been well established that research plays significant role in the reform and improvement of education systems. According to Egbo (2005), the engine that drives education in developed societies is research and development. Meaningful research that would lead to capacity building, that is developing the teacher through training, and re-training should be encouraged. Research work should be a major concern of all stakeholders and this should be properly funded.

**Conclusion**

It is abundantly clear, that if the polytechnics must survive and to remain relevant in the development of manpower needed in the socio-economic development of the nation, there is need to embrace a proper policy shift to accommodate the suggestions elucidated above. The policies must be well planned and implemented with genuine intentions, otherwise polytechnic educations in Nigeria will likely remain at crossroads.
References


