REPOSITIONING OF POLYTECHNIC EDUCATION FOR TECHNOLOGICAL DEVELOPMENT IN NIGERIA

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Abstract

The Polytechnic education has not been given the needed priority attention in Nigeria. This is because **of the low** value **placed on polytechnic education** by the government and the society. The current-Nigeria goal on Polytechnic education that Polytechnics should concentrate on training and producing only middle level manpower for direct employment in industries as a support to higher-level manpower is discussed. The ceiling that is already in place on career progression of polytechnic graduates needs to be readdressed if Nigeria should consider polytechnic education as a means of acquiring technological advancement and not only middle level man power. Hence for Nigeria to move forward in technological development, there is need to reposition her polytechnic education in such a way that technological development is given its highest level of attainment in our polytechnics.

Introduction

Nigeria must wake up and keep pace with the rest of the world in this era of technological development. For this to happen, there is need to come up with a new structure that will place the polytechnic education on a sound pedestal to ensure the full realization of individual's potentials and help our nation to get the needed manpower of the right quality and number for rapid technological growth.

Okunzuwa (2004). lamented that, it is heart-arching to know that despite the prostrate stage of Nigeria polytechnic system, policy makers are still confused as ever. They are yet to address their minds to a definite means of acquiring technological advancement. They are not sure whether they should plan to steal / transfer or develop our technology, rather their current pre-occupation is what could be bought with our excess petro- dollars. Hence the current manpower needs are in the fields of financial accounting, development economics to share our national cake, politicians to sustain democracy and finally, security operatives to maintain peace. All these are at the expense of sourcing, identifying and encouraging innovation and indigenous capabilities, which is the bedrock of all technological development.

Taiwo (2005) pointed out that, the acquisition of relevant and appropriate technology accompanied by well trained manpower is the most effective means of empowerment of citizenry to stimulate and sustain national development enhanced employment, improve the quality of life, reduce poverty, limit the incidence of social vices due to joblessness and promote a culture of peace and democracy. For the above goal to be met, our polytechnic education needs to be repositioned.

Apparent Negligence on Polytechnic Education in Nigeria

Right from its inception in 1932, polytechnic education has had to struggle for identity, recognition and relevance. The first polytechnic in Nigeria was Yaba higher college established in 1932, with a mandate to provide training for professionals with great attention devoted to practical and manipulative skills in the areas of Engineering, Mechanic, Agriculture, Survey, Forestry, teachers training and commercial studies. The goal of the college was to provide assistants who were to relieve colonial administrators of menial tasks.

Okunzuwa (2004), asserted that, despite the conversion of Yaba higher college to Yaba technical institution in West Africa, the goal and the mandate of the college did not change. Sadly too, inspite of the rapid growth in the number of polytechnics and colleges of technology, the first legal backing for the operation of polytechnic education in Nigeria became only operational in 1979. He also lamented that it is a shame that till date, the Nigeria polytechnic system has not derived any benefit from the decades of world summit and many international and national conferences devoted to quality in Education for National Development.

Baikie (2000) rightly pointed out that a good number of the research output of our universities and polytechnics end up as academic papers or reports on the pages of journal without being used to

effect positive changes in our educational system.

A workshop was organized by P.T.F. at Abuja, on 28'" June, 2005, to look into the challenges facing technology development in the country and in line with the National policy on Education. The Education Trust Fund (ETF) in partnership with the Federal Ministry of Education, National Board for Technical Education held this one day workshop with the theme: "Revamping Technical Education to Face Challenges of Technology Development in Nigeria." This was aimed at fashioning ways and means of turning around technical education in Nigeria. The chairperson of the fund, Mrs. Oluwatoyi Olakanri, in Taiwo (2005), pointed out that, Nigeria needs highly skilled and competent manpower for her economic and technological growth. She lamented that the avenues through which these could be acquired have suffered serious neglect over the years.

" The Academic Staff Union of Polytechnic (ASUP), in her News letter (2003), has also expressed dismay over what is described as the total neglect of polytechnic sector by the government. The ASUP led by Mallam Sulayman Ali, as cited by Okunzuna (2004), urged the federal Government to put in place enabling laws that would make polytechnic run degree programmes, this will remove the ceiling that is already in place on career progression of its graduates.

The Goals of Polytechnic Education

The polytechnic Education as stipulated by the National Policy on Education (2004), have these specific goals to achieve:

a. provide full time or part-time courses of instruction and training in engineering, other technologies, applied sciences, business and management, leading to production of trained manpower.
b. provide the technical knowledge and skills for agricultural, commercial and economic development of Nigeria.
c. give training and impact the necessary skills for the production of technicians, technologists and other skilled personnel who shall be enterprising and self reliant
d. train people who can apply scientific knowledge to solve environmental problems for the convenience of man and

e. Provide exposure to professional studies in these technologies..

In pursuance of these goals, the policy states that government shall adopt measures to:

1. develop and encourage the ideals of polytechnic education through students industrial work experience and
2. Improve immediate and long-term prospects for polytechnic graduates and other professionals with respect to their statues and remuneration.

By conception and design, the goals are certainly superb if the measures are properly implemented because the goals are geared towards technological development that will yield self-reliance.

However, there is a great difference between formulation of objectives and the implementation. Past experience has shown that policy formulation is never a problem to Nigeria but the implementation.

The commission on the review of higher education in Nigeria (1992), also, known as Longe Commission as cited by Maduewesi (2005), has made wide range and important recommendations on what the educational system should strive to achieve in order for it to be relevant to the goals and aspirations of the society. The Longe commission recommends among other things that tertiary level of our educational system which includes polytechnics should pursue the actualization of science and technology through design, construction and production. This recommendation is yet to be implemented in our polytechnics.

Odezue, (2003), asserted that the aims and objectives of polytechnics cannot be achieved just by mere existence of these polytechnics but by their productivity. This is to say that achievements can only be measured in terms of practical productivity out-put.

Baikie (2000) lamented that because of the absence of concrete link between polytechnic and

industries, technological development in the country has not been enhanced as one would expect of serious technology. Polytechnics must establish close relationship with the industry and the two must co-operate in joint research and development programmes and thus, foster a polytechnic industry link which would promote the development of technology.

Ukachukwu (2003), suggested that videotapes have great potentials to link the industrial practicals with the academic experiences. For instance, a practical industrial engineering experience can be videotaped and brought to the lecture classes' to complement the theoretical experiences. Lecturers should include the preparation and the management of the environment so that students can learn without difficulty.

Some Adjustable Areas of our Polytechnic Education for more Realistic Goals

1. Polytechnic "Education Ceiling.'[1]

The ceiling that is already in place on career progression of polytechnic graduates needs to be readdressed. The sky is the limit for a person that passes through the university, the same cannot be said of a person that passes through the polytechnic unless the person "crosses over." Infact, the theory of crossing over should be discouraged if we really want to encourage our technological development. It is unfair for the HND graduate to go back to part two or three in a university after spending about four academic sessions in a polytechnic. The researchers at this juncture suggest a further expansion or upgrading of technical courses in our polytechnics to make the polytechnic education attractive and sustain the interest of the students. It is untechnological for a HND graduate of Mechanical Engineering to go to university for post graduation diploma in Business Administration and then Masters in Business administration afterwards. Ajiwo and Adelakun (2005), suggested that a polytechnic post graduate school can be established and appropriate qualification awarded so as to qualify such a graduate to become full-fledged technologist and Engineers that will make impact in the nation's technological arena. Okunzuwa (2004) asserted that for the fact that some other countries provide the facility for the award of first and higher degrees in their polytechnics in the light of their manpower needs and priorities, this should have been a good reason for reviewing the programmes available in Nigerian polytechnics. For instance, the Institution of Management and Technology (IMT) of Massachusetts in USA offer M.sc. and PhD programmes.

2 Admission into Nigerian Polytechnics

This is another area that needs to be readdressed. The technology and Business courses ratio in admissions as stipulated in the National Policy on Education (2004) ,section 84, states that in order to ensure that admission into polytechnics is broad-based, selection of students shall be through the Joint Admission and Matriculation Board (JAMB) examination. Admission into the technology and business courses shall be weighted in the ratio of 70:30. In fact the reverse is the case in Nigerian polytechnics. It is about 10:90 or 20:80 ratio, which is a very bad situation for a country that really wants to use polytechnic education as a means for technological development. The policy for admission of students into Nigerian Polytechnics is quite different from the practice.

The low societal value placed on Polytechnic education has made most students who are qualified for science and technology courses to rush to universities for more "honourable programmes" and "more honourable certificates". This is why our polytechnics are flooded with students in Business courses. This will continue until a better admission policy is adopted.

The NBTE chairman, Dr. Amba Ambaowe emphasized the NBTE concern about the maintenance of 70:30 ratio. He further stressed that, any polytechnic that does not follow this admission policy would not be visited for accreditation by the Board (Amba 2003). In order to make this policy practicable the admission pattern has to tilt a little as follows:

-Prospective Polytechnic students admission into Engineering and Technology should emphasize passes in the relevant subjects leading to the desired programme. If the candidate is not able to make a credit pass, such candidates could be offered admission and be made to take a semester course as a remedial to the defaulting subjects.

An interview for prospective student is also recommended in which they will be tested on use of their hands, (dexterity). Such dexterous candidates can be trained and turned out to be good

technicians and technologists. This is most applicable to candidates who studied vocational subjects. The candidate's good performance in the interview can be a waver to his/her poor performance in the deficient subjects. For instance, a candidate for an Engineering programme requiring credit passes in Maths, Physics and Chemistry may be deficient in Physics. This paper recommends that such a candidate with ordinary pass in Physics could be admitted and be made to take a one semester remedial course of about 2-3 credit hours in Physics to enable him make up for the deficiency instead of his outright disqualification.

3. Certificate Courses

The researchers recommend that Polytechnics should organize certificate courses for artisans who have basic education but were not able to obtain their G.C.E/OL or WASC certificates. Such certificate courses could be designed to give them training on the basic principles of their fields of study and fundamental knowledge in English, Mathematics, Physics and Chemistry. Such training taken for a specific number of years coupled with some years of post-certificate experience will enable them to be turned out as possible National Diploma candidates.

Conclusion and Recommendation

From the foregoing, we cannot out-rightly blame the society for placing lower value on Polytechnic education when she discovers that the Polytechnic graduates are made only to provide middle level manpower. No doubt, candidates who consider themselves brilliant choose to continue attempting UME (University Matriculation Examination) JAMB for many years instead of entering for MPCE (Polytechnic and College of Education) JAMB examination. This is responsible for the poor admission into Engineering and Technology programmes in Polytechnics. To give value and stimulate ambition in Polytechnic Education, the Nigerian government should reposition Polytechnic education so that the would-be polytechnic graduate will be able to progress in Technology to a height that is comparable with his university counterpart. Where facilities are available, polytechnics should be encouraged to run degree and post-graduate programmes, so that her graduates will not be stagnated or tempted to divert to other fields.

Moreover, the polytechnic education, if repositioned can provide both middle - level manpower and high-level manpower respectively. With the introduction of certificate courses, which will produce graduates with sharp manipulative skills, personnel for the low level manpower will be made available. The very bright and ambitious graduates of the polytechnics will proceed further for researches and higher degrees. These will eventually provide the high-level manpower need for the nation. Polytechnic graduates should not be left to waste away. Let us tap their potentials to the fullest by giving them the opportunity for further improvement.

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