REPOSITIONING TECHNICAL EDUCATION EOR THE 21ST CENTURY CHALLENGES IN NIGERIA

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Abstract

Technical Education encompasses general education, scientific and technical studies and related skill training. For enhanced technical development of our country, it is unarguable that repositioning our technical education in this present century is sin qua non. The authors discuss briefly the history of technical education, its main objectives, problems with some proffered solutions and the way forward in the present century.

Introduction

First and foremost, in defining technical education care should be taken in the definition because the term technical education" is of wider imports as it implied in the following definitions. According to the National Policy on Education (1981), technical education is that aspect of education which leads to the acquisition of practical- and applied skills as well as basic scientific knowledge"!

UNESCO (1978), as cited by Ekpenyong (2001), defines technical education as: "Education designed at upper secondary and lower tertiary levels to prepare middle level personnel (technicians, middle management etc) and at University level, to prepare engineers and technologists for higher management positions.

Technical education includes general education, scientific and technical studies and related skill training. The components of technical education may vary considerably depending on the type of personnel to be prepared and the education level.

Technical education cannot be complete without some aspect of general education. This invalidates the mistaken notion that technical courses are not intellectual because they emphasize the practical aspect of living. In fact, technical education has a broad goal and application in contrast to vocational training which is aimed at developing individual specific competencies that are suitable for specific jobs or occupations.

Many of the early educational programmes for technicians were only designed for field of engineering technologies. This led to the mistaken idea that technical education is a type of education for certain engineering technologies. Now, the general agreement, however, is that technical education is a level of education instead of a type of education. The proper province of technical education, therefore, is that education for the highest levels of sub-professionals in any occupational field.

There are, as of now, five types of technical education that are available outside the University system: the Pre-Vocational and Vocational Schools at Post-Primary level, the Technical Colleges, the Polytechnics and Colleges of Technical Teacher Education at Post-Secondary level. However, the Government is aware of the fact that the role of the Industries in providing technical training outside their own conventional programmes is inadequate. The programmes of the industries are aimed mainly at the training of the product of our institutions which they generally consider unusable without such further training, owing to lack of practical experience.

The general public regards technical education as somewhat inferior to other types of education. This is because the course structure and contents in some of our technical institutions rely mainly on a model based on foreign technical environment especially- when insufficient effort or attention is given to the development of relevant skills in certain basic fields such as food technology, clothes manufacture, etc which are central to economic

growth.

Wenrich and Wenrich (1979), as cited by Toby (2000), asserted that technical education is important to the Nation as a whole because it contributes to our national economic welfare, social mobility, and national security.

Brief History of Technical Education in Nigeria

Technical education is the bedrock of any sound economy. Therefore, trained manpower in applied sciences, technology and commerce, particularly at sub-professional levels must perform effectively to keep the economy moving. Also, the personnel so trained provide for the technical knowledge and vocational skills necessary for agriculture, industrial machinery, commercial and economic development.

Ashby commission was set up in April, 1959 by Federal Government through Federal Ministry of Education essentially to examine and make recommendations on Nigerian Higher Education need for a twenty-year period from 1960-1980 (Ekpenyong, 2001). This nine-man commission was under the chairmanship of Sir Eric Ashby and three other prominent Nigerians Professor Kenneth Dike, Sheltima Kashim and Dr. S.D. Onabainiro were also involved.

The commission's report was released in September, 1960 and came up with several recommendations which obviously had significance at all levels of education. Among these recommendations, in accordance with Ekpenyong (2001), are that:

i. Engineering courses, vis-a-vis vocational technical education should be "down to earth and biased towards the practical and not over sophisticated".

ii. There is need to emphasize the importance of agricultural education to attract students while courses in veterinary education should emphasize animal husbandry, animal malnutrition and preventive medicine.

iii. Technical institutes should train secretaries' book-keepers, clerical and junior administrative officers.

iv. Advanced courses in business studies were to be offered in the Universities although preferred offering them through sandwich, evening study or correspondence since they were "office based"[1].

It is believed that these recommendations from this commission should have advanced the course of technical education in Nigeria today. Ashby commission Report (1960), actually had impact on the vocational technical education policies and development of Eastern, Western and Northern Nigeria and Capital Territory of Lagos as follows:

i. In *Eastern Nigeria,* Professor Kenneth Dike, principal of the then University College, Ibadan was appointed to head a committee to review the educational system of the region. Subsequently, with reference to vocational guidance, vocational and technical training, including training in commerce _ and Agriculture, the report emphasized that the education system should be geared towards providing specialist in various areas of economic function including experts, professionals and technicians of all kinds-.

ii. Banjo Commission (1960), also reviewed the system of education of Western Nigeria with reference to the Ashby Report and suggested the following among others:

a. A long-term planning of the different courses taught at the trade centres.
b. Part-time training in vocational guidance to be given to selected staff in the Junior Secondary Schools.
c. A technical teacher training college to be established for the training of teachers of technical and business subjects.
d. Technical institutions should be expanded and made to run both day and evening courses.

iii. The Oldman commission report (1962), as cited by Ekpeyong (2001), had nothing to say on vocations-technical education of the Northern Region of Nigeria. Its attention was focused mainly on getting up a workable

educational administration in the region.

Recommendations put forward by the respective regional commission mentioned in the foregoing coupled with the interest and enthusiasms of the newly won Independence gave rise to a modest improvement in technical education. These paved the way for the following among others:

i. Building of Enugu Technical College which was later expanded and reconstituted in January, 1966 in Eastern Region of Nigeria sponsored by the United Kingdom, ii. The opening of Technical College (later Polytechnic) in Ibadan in 1960, cosponsored by the Western Regional Government, Western Michigan University, U.S.A. and the USAID. Notable among others was a technical college (Mid-West) that was also established in Auchi, sponsored by United Kingdom and later up-grated to a Polytechnic.

iii. In the Northern Region, Kaduna technical institute, most significantly, was set up along with other trade centres, and later on, Kaduna Polytechnic was built.

The Main Objectives of Technical Education

As preparation for an occupational field, technical education should be organized on a national or provincial/local basis, "so as to respond positively to social, economic and educational requirements and to the needs of different groups" (UNESCO and ILO, 2002). The main objectives of the technical education are as follows:

a. To contribute to the achievement of the societal goals for greater democratization and social, cultural and economic development, while in addition, to develop the potential in the establishment and implementation of these goals, regardless of religion, race and age.

b. To enhance an understanding of the scientific and technological aspects of contemporary civilization in such a way that people comprehend their environment and are capable of acting upon it while taking a critical view of social, political and environmental implications of scientific and technological change.

c. To empower beneficiaries towards contribution to environmentally sound sustainable development through their occupations and other areas of their lives.

Technical education should exist as a part of a system of lifelong learning adapted to the needs of each particular country and to the worldwide technological development. The basic needs of technical education should incorporate the following among others:

a. Abrogation of barriers between the levels of and areas of education, between education's and world of work, and between school and society through appropriate integration of technical and general education at all levels, the creation of open and flexible educational structures, etc.

b. Improvement of quality of life through creation of "a learning culture that permits individual to expand their intellectual horizons, to acquire and to constantly improve professional skills and knowledge, and to engage positively in society to utilize the fruits of economic technological change for the general welfare" (UNESCO and ILO, 2002).

Problems of Technical Education

Technical education is beset with a number of problems, which retard its growth and development. These problems can be briefly discussed under the following headings:

Lack of Proper Curriculum for our Technical Education: The curriculum in our ^technical schools and colleges do not embrace certain basic fields which are relevant to our present and future needs. The courses designed for our technical institutions do not always have enough

practical relevance with regard to industry and government which lead, consequently, to unemployment of products turned out. Uzoka and Okafor (2003), as cited by Umoru (2004), recognized that our technical education "curricula are rather deficient of technology for the transformation of rural life.

Inadequate Technical Teachers: Absence of or lack of qualified technical education teachers has paralysed more technical education programmes in our various institutions. It could be recalled that the Mechanical Engineering Technology Department of Auchi Polytechnic once suffered a similar fate towards the end of the 20th century. It is a common saying that one cannot give what one does not have. Lack of desired skills constitute a menace to our technical education programmes. Moreover, it has been difficult to recruit the right quality of staff locally; some of such instructors or teachers, whenever found, are mostly expatriates especially in the Northern part of Nigeria.

Lack of Appropriate Industries for Students' Industrial Training Experience: With ill-equipped industries for industrial training experience, the graduates always lack the desired skills for them to be relevant or employable. Hence, these products are always looked down upon.

Lack of Teaching Equipments/Facilities:
Absence or lack of adequate equipment/facilities has been a serious hindrance to technical education. Even when the equipment/facilities are available, we lack maintenance culture hence, their usual premature failure. Workshops and laboratories are usually Ill-equipped for the student's practicals and hence, the students lack the hands-on experience.

Deplorable Attitude of Employers and the General Public towards Technical Education:
In Nigeria, employers and the public at large tend to relegate Polytechnic education, for example, in favour of University Education to the extent that this now affects the various cadres of technical personnel in our technological growth. The general thinking is that technical education is for those who are not intelligent enough to do academic work. Moreover, poor salaries are usually paid to technical workers.

Lack of Proper Funding: Technical Education is usually not properly funded. Only a miniature part of our national budget is usually allocated to technical education.

Lack of Political will on the Part of Government to Implement Policies on Technical Education: The country has always had good/laudable programmes on technical education but the implementation has always been a failure e.g. the failure of 6-3-3-4 system,

Technical Education and the 21st Century

The 21st century is a unique century. It is unique in the sense that the world is witnessing some highly technological advancement in the area of science which aims at improving human lives. It is a century that the only option left for man is change. Change is seen as the metamorphosis that affects the various systems of the world's socio-political environment causing them to tilt towards meeting the challenges that confront contemporary societies. It is a turning wheel like a widening gyre, that impact on all the spectrum of the societies of the world (Ngban 2006). To meet these challenges technical education must be reoriented.

As noted by Uujamhan (1998), the visions for technical education in the 21st century among others are:

1 Technical education must enjoin problem-solving approach, be multi-inter disciplinary approach, be the integration of education into community and be life-long and forward- looking.
2 It must aim at creating and providing job for the masses, providing versatile labour force that can change with changing

technology. Catching young people and encouraging older ones to pursue further studies will create a sophisticated citizenry who think globally technically, economically and politically. 3 Nigeria has lost decades of development to negative attitude and growth and has thus remained one of the weakest growing economies in the world on a par capital basis especially for the period 1981-2000 (CBN, 2003). This is despite the nations potential to become Africa largest economy and a major player in the global economy by virtue of it rich human and material resource endowment. Much of these potentials have remained untapped and if previous trends continue, Nigeria runs the risk of not meeting the internationally agreed *Millennium Development Goals (MDGs)* by 2015 (CBN,2003).

Technical education is essential for building technological foundation and the creation of the requisite socio-political, cultural and economic structures arid systems as it is instrumental to the generation and maintenance of wealth on a sustainable basis.

The success story of USA, Japan, U.K, Brazil, India, Botswana etc. should not be forgotten so soon. All these great nations repositioned their technical education and that led to a meteoric rise in small scale enterprises. In Japan, for example, small business is regarded as extremely important and the government considers the promotion of small and medium scale enterprises sector as one of the most cost-effective intervention to promote the development of the whole economy (Uujamhan 1998). Small scale enterprise is usually described as the engine of economic' growth and development.

Nigeria is taking after U.K. that was slow to act. The U.K., Singapore, Hong Kong had previously thought that there was no need to have an explicit programme favouring small scale enterprises but only to create the conductive economic climate for development enterprises generally through the private sector (Uujamhan 1998).

Uujamhan (1998), further explained that, as a result of shortage of jobs in the big industries, there has been a shift with the aim of increasing people's chances of being employed.

The Way Foreword

Technical education is sine qua non for our technological development. Any breakthrough in our technical education progreammes will definitely have a significant impact in our technological advancement. The following recommendations, among others, are considered necessary for a successful or purposeful technical education in our country:

Nigerian technical personnel need to be encouraged and made to develop their local technology instead of foreign technologies, which have numerous associated problems. Our local technologies will meet our local needs and not foreign needs. The talented Nigerians in the programme need to be granted scholarship to serve as tonic. Teachers in technical education should be properly remunerated in "form Of payment of attractive salaries, fringe benefits, free housing (or subsidized) etc.

Proper funding is necessary for our technical education to provide equipment, workshops and laboratories as well as adequate training needs for teaching personnel.

Equipment/facilities for our technical education programmes need adequate maintenance to avert premature failure or unavailability.

There is need to review our technical education curriculum in consultation with the industry and government with a view to giving such courses offered greater practical relevance. Government needs to continue to welcome international aid and co-operation in higher technical education. Such aid and co-operation could be in form of exchanges of personnel, exchange of ideas, curriculum development and staff development.

Conclusion

Technical education is the bedrock of any sound economy and a system of life-long learning that should be adopted to the needs of each particular country and to the worldwide technological development. It improves the quality of life through the creation of learning cultures that permit individuals to expand their intellectual horizon and also to acquire and improve constantly, the individual's professional skills and knowledge.

In order to enjoy the positive impact and gains of technical education in our economy, the suggested solutions in the foregoing are indispensable to avert or check a number of problems which beset Nigerian technical education or make its situation a deplorable one.

References

Ashby, E (1960). *Investment in Education: The Report of Commission of Post-school Certificate and Higher Education in Nigeria.* London: St Clement Press.

CBN (2005) CBN Briefs Series No. 2004-5/01-11

Ekpenyong, L. E. (2001). *Foundations of Vocational Education: New Directions and Approaches.* Benin City: supreme deal Publishers Int. Ltd.

ederal Rep. of Nigeria (1981). *National Policy of Education.* Lagos: federal government Press.

Ngban, M. O. (2006). Change has the potential to Reposition. Quarterly Magazine of the NNPC

Toby, T.U. (2000). *Essentials of Management and Leadership in Vocational*

and Technical Education. (2nd Edition). Jos: Nigerian

association technology teachers (NATT).

Umoru, G. (2004). Technology education as basis for economic rehabilitation and Self-[1] reliance. lecture notes on PGDTE programme

UNESCO *(197$).Practical Guide to International Technologies in the field of Technical and Vocational Education* (Prelim. Ed.). Paris: UNESCO.

UNESCO and ILO Recommendations (2002). *Technical and Vocational Education and Training for the Twenty-First Century.* Paris: UNESCO.

Uujamhan (1998). The vision for technical education in the 21[sl] century: *A Convocation Lecture* at Auchi Polytechnic, Auchi

Whnrich, R.C. and Wenrich, J.W. (1979).[;] *Leadership in Administration of Vocational and Technical Education.* Columbus, Ohio: Charles E. Merill Publishing Company.

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