International Journal of Engineering Science and Applied Mathematics
Volume.14, Number 7 ; July-2023;
ISSN: 2836-9521| Impact Factor: 6.64
https://zapjournals.com/Journals/index.php/ijesam
Published By: Zendo Academic Publishing

TECHNICAL EDUCATION IN NIGERIA AS A KEY FACTOR TOWARDS NATIONAL DEVELOPMENT

[1]IBIDAPO, A.B. (Ph.D)

Article Info

Keywords: Technical Education, Vocational Education, Nigeria, National Development, Industrialization, Poverty Alleviation.

Abstract

The abstract of this article is focused on the importance of technical education in the economic and social development of Nigeria. The article explores the concept of technical education and its distinction from vocational education. Technical education plays a vital role in the production of technicians who bridge the gap between professional engineers and craftsmen. The paper examines the past, present, and future of technical education in Nigeria and suggests ways to enhance its effectiveness. Technical education is identified as an essential ingredient for achieving national development, including poverty alleviation, eradication of corruption, food security, basic education, and steady power supply. The article highlights the need to prioritize technical education as a means of industrializing the nation and enhancing self-reliance. Overall, the article emphasizes the importance of technical education as a pragmatic field of study aimed at equipping individuals with the skills and knowledge needed to enhance their relevance and functionality to society.

Introduction

It has been said over and over, that industry, especially manufacturing is the key factor towards achievement of nation's development, this equally lends credence to why counties have pursed different paths towards self actualization and economic emancipation and through industrialization.

It has been recognized that an important ingredient for success in the ongoing effort by the government at alleviating poverty, eradication corruption, attaining food security achieving universal basic education ensuring steady and uninterrupted power supply, maintenance of our oil refineries, assuring a drastic reaction in violent crime and communal violence involving the unemployed youths, among other issues is the effective delivery of qualitative technical education.

The concept of Technical Education

The terms vocational education and technical education are often used interchangeability to refer to the same type of education. While vocational education includes technical education, the two terms are by no means synonymous (Okoro, 2004). Technical Education is a post-secondary vocation training programme whose major

[1] Department of Vocational and Industrial Technology Education, Bamidele Olumilua University of Education, Science and Technology, Ikere Ekiti, Ekiti State, Nigeria.

purpose is the production of technicians. In Nigeria the term technical education is used more widely than vocational education and is sometimes used incorrectly to refer to secondary vocational and prevocational education programmes. Technical education is special grade of vocational education which can be distinguished from other vocations education programmes because more mathematics and science are required in the training programme. Graduates of technical education programme usually bridge the gap between the professional engineer and the craftsman.

Technical education is most often found in trade and industrial education but others occupational areas such as agricultural education, home economics education and business and office education also have their own level of technical education.

Historical perspectives of Technical Education Pre-Colonial Education

Before British intervention in Nigeria and the establishment of formal educational institutions in the later part of the ninetieth century and the early part of the twentieth century, education in Nigeria was mainly vocational. An important function of education in those days was to teach people how to earn a living by becoming expert producers of goods or services. Young men acquired the rudiments of an occupation from their parents or from expert craftsmen to whom they were apprenticed.

Trends in Vocational and Technical Education

Nigeria quest for self-sufficiency in food production, raw materials from home, industries and total security, against any invading countries triggered off a total overhaul of her educational system from the inherited legacy of colonialism to include the productive and utilitarian type of education vocational and technical education (Olaitan, 1996).

Surface to know briefly that vocational technical Education existed long before the advent of western education in form of home training on some skills and apprenticeship system. The Ashby Commission 1962 constituted by Federal Ministry of Education was assigned to investigate Nigeria's needs in the post-secondary certificate and higher education. The commission among others observations recommended types of technical and vocational education needed by Nigeria to sustain its economy in the 1980's.

The Ashby report gave birth to many other reports such as Skapski (1962); Dike 1962. Comparative Technical Education Seminar Abroad (1966). These reports gave Nigerians "inside" opportunity to participate in the policy making bodies of its educational system. In 1960's a move to change the functions of the trade centres technical institutions and colleges were made. According to Kaka (1989),"Under a new policy most of the craft schools and trade centres were incorporated or converted into technical colleges. Technical colleges were up graded and became polytechnics as a result, the scope of the curriculum, was broadened. Courses are now provided in higher studies leading to Ordinary National Diploma and Higher National Diploma".

In Nigeria education system, modern vocational technical education is not administered in isolation. It was relatively new than, complex and tripartite in nature. Complex in the sense that both the vocational technical Education and General Education operates under one administration which may be headed by one educator, hopefully a general educator. Tripartite in nature because, the Federal, State and Local governments are all involved in the same administration of vocational and technical education in Nigeria, a community comprehensive high school.

This at times leads to conflicts in policies. The Federal Government has divided roles and responsibilities in the Administration of vocational and Technical Education in Nigeria. Justification of this assertion rests on the fact that, there are federal owned technical colleges and polytechnics. These institutions are directly administered financially and funded by the

Federal ministry of Education. Similarly the State owned Technical Colleges and Polytechnics look forward to the state for their finances.

Report of the Comparative Technical Education Seminal Abroad

The comparative Technical Education Seminar Abroad dealt with three levels of technical and vocational education.

1. Pre-vocational and pre-technical training usually offered in secondary schools.
2. Craftsmen training usually offered in technical colleges, trade centres and vocational schools; and
3. Technical training usually offered in polytechnics and colleges of technology

In order to ensure that adequate number of teachers were available for the prevocational and pre-technical training in secondary schools the commission recommended the training of teachers with general technical versatility. The commission recommended on expansion in the facilities for teacher training at the University of Nigeria, Nsukka and recommended an annual output of fifty industrial arts teachers. The commission also recommended the establishment of Advanced Teacher Training institutions to provide training leading to Nigeria Certificate in Education ((Technical). The commission report also contains a recommendation that teachers of pre-vocational subjects who were staffing schools but whose academic or technical standards did not measure up to requirements of their programmes should be given further training to upgrade their technical and pedagogical skills.

In an appendix to the report of the comparative Technical Education Seminar Abroad, O. Ozoro, a member of the Seminar and at that time Acting Chief Technical Education Officer in Ibadan, proposed a one level technician diploma programme to replace the then existing fevo level technician diploma programmes consisting of the Ordinary National Diploma (OND) and the Higher National Diploma (HND). He suggested that the one level technician diploma should be called the Nigeria Technicians Diploma (NTD) and should be obtained after three years of academic work beyond the West African School Certificate. According to his proposal one year of industrial experience could be inserted between the second and third years of studies if industry could guarantee that the experience would regularly provide relevant and useful training for the students. The proposed one level technician diploma was implemented briefly in the early nineteen eighties but was later withdrawn following protests from polytechnics students currently Nigeria has a two levels technician diploma system: an ND obtained after two year post school certificate course and HND obtained after a two year post ND course.

The present state of Technical Education

Since the time of Nigeria's independence, each succeeding government had recognized the important role that technical education can play in the nation's development effort. Thus there has been the establishment of many agencies e.g. the National Council for Science and Technology (NCST), Science and Technology Development Agency, to mention a few. Also efforts have been made to review the educational system as a whole, thus we have the National Policy on Education (NPE) which has been revised several times. There is also the most recent Blueprint and master plan on Technical and Vocational Education Development in Nigeria in the 21st century: 2001 -2010 (FM 2001). This has set for itself the following objectives (among others).

- To produce semi-skilled, skilled and technical manpower necessary to restore revitalize, economy and substantially reduce unemployment.
- To provide technical and vocational education that is broad-based in nature - accommodating all at all periods of life without discrimination or bias on grounds of sex. Intellectual talents and aptitudes etc;
- To reform the content of Technical and vocational education to make it more responsive to the socio-economic needs of the country;
- To harmonize and inter-relate with industry and the labour market in terms of resources for training as well as occupational and production standards;
- To raise and sustain a generation of job creations rather than job seekers.

The objective of vocational and Technical Education, some of which are captured above clearly spell out where we should be. However, there had always existed the dichotomy between the rapid development of physical facilities and amenities, on the one hand (which we cannot maintain and the establishment of a solid foundation for the maintenance and development of such facilities on the other hand. Ajaja 2004 noted that the latter would involve the following steps;

- Mapping out a programme that first of all identifies the technological profile of the country.
- Determining its current and future needs as well as its ability or inability to meet with those needs;

- Assessing the Nation's natural endowments; from these set targets for the systematic reduction of the dependence on imported technological products.
- Evolving a strategy for the implementation of such a plan which must ultimately to self-reliance.

Nigerian's internal capability to produce goods and services, sustain a good pace of development and maintain the machinery of production and development is inextricably interwoven with the level of development of its technical and vocation manpower. Thus the human resources of any nation are the purveyors of that nation's technology.

Many analysts such as Smith (1937), Marshall (1964), Harbisan and Myers (1964), Ade Bile (1991) have generally agreed that the most valuable of all capital is that invested in human beings.

Therefore, the key to economic development are human and not primarily material resources. This supports Turakj (2006) who observed that knowledge, skills and intellectual property rather resource potentials are now the driving force of global wealth creation. Hence the need to develop the human resources needed to solve the problem of economic, more so that our nation is abundantly blessed with material resources.

Ajaja (2004) noted that Technical and Vocational Education has neither been given its pride of place nor properly harnessed as a vital tool policy has further worsened the situation. For example, article 49, section 6 of the National Policy of Education 1977, (revised 1981, 1990) states that the aim of Technical and Commerce, particularly at "sub-professional grades and to give an introduction to professional studies in engineering and other technology. In addition, they are to produce middle level manpower.

The level of priority (or lack of it) accorded technical education is evident in its gross under-funding by Government - both at the Federal and State levels.

Because of the emphasis on skill acquisition, technical education is by nature capital intensive, especially with respect to:

- Replacement of obsolete equipment and machinery
- Refurbishing of non-functioning equipment,
- Procurement of consumables for workshops and laboratories, and
- Provision of infrastructure (especially power and water supply) to operate the equipment.

The under-funding has resulted in the production of "half-baked" graduates of technical institutions, armed with certificates, but virtually no skills.

The effectiveness of Technical Education has been severely curtailed by the fact that the employment market is virtually non-existent. Graduates of Technical Education are trained primarily for the industrial sector, which has ritually collapsed following the introduction of the structural adjustment programme (SAP) in the mid-to-late eighties. The problems facing this sector to which Government must proffer solutions, include:

- High cost of importing machinery equipment
- Poor infrastructure (power, water, road network) etc.
- Virtually unrestricted importation of consumer and other goods.
- Unpredictable nature of government policy on industrialization.

It must be emphasized that Nigeria of a virile industrial sector. Nigeria with over 188 million people depends on foreign imports for more than 90 percent of its daily needs.

The future of Technical Education in Nigeria

There is no skeptism about what tomorrow might bring about Technical education in Nigeria. Therefore, it would be possible if we can develop a system that makes learning more interesting, involving and permanent to the students in the various aspect of our educational programme. If we can remove public apathy towards vocational and technical education and the misconception that Technical education is for dropouts. Even at times, policy makers find it difficult to appropriate enough fund for the running of Technical education in erroneous believe that recipient need only a little for training yet, Aina (1994) said that any nation which subscribes to the persuasion that dropouts should chart the course of her technological development is doomed for failure.

To improve on the present quality of curriculum delivery is technical and vocational education there must be an appreciable rise in the funding by the various governments. To make the industrial training component of V T. E. meaningful, there must be a conscious effort at resuscitating and revitalizing the industrial sector. This without any iota of doubt provides employment for Technical graduates and makes T. V. E more attractive to candidates seeking admission to tertiary institutions.

Conclusion

In view of the forgoing, it has become imperative more than ever before that Government and private firms at all levels must commence the resuscitation and revitalization of Technical and Vocational education. According to Taiwo (2008), a strong advocacy regime must be put in place to sensitize Nigerians on the importance of Technical Education. The dream of the nation to be one of the best 20 economics in the word by 2020 can only be achieved by taking giant strides to boost technical education.

It is gratifying to note that the Federal Government has taken bold steps in such important areas as emphasizing the need for many of the best brains to be in the technical colleges as in other areas. This is important as only a small fraction of the Nigerian Youth is expected to be dropouts, and world economic like Germany, Japan, Asians etc have their youths in one area of vocational and technical education training or the other.

References

Adegbite, P. O. (1991). *Polytechnic: Education for Self reliance in voices on Polytechnic Education*, 73-81.

Ajaja, O. (2004). Promoting Vocational and Technical Education for National Development. A key note address delivered at the Annual Conference of the School of Vocational and Technical Education, the College of Education, Ikere – Ekiti. llth -15th October, 2004.

Federal Republic of Nigeria (2004). *National Policy on Education*, Lagos NERCD press

Harbisan, F. & Myers, C. A. (1964). *Education Manpower and Economic Growth*. McGrawHill Book Publication Co. New York.

Okoro, O. M. (2004). *Principle and method in vocational teacher education in Nigeria*, Nsukka, University Trust Publishers.

Olaitain, S. O. (1996). *Vocational and Technical Education in Nigeria; issues and analysis*. Onitsha Noble Graphic Press.

Report of the Comparative Technical Education Seminar Abroad and Recommendations for a National plan of Vocational and Technical Education in the Republic of Nigeria 1966.

Taiwo, T. (2008). An address delivered at the quarterly conference of the National Association of Principals of Science and Technical Colleges of Nigeria. 10-12 December, 2008.

Turaki, L. (2006). Nigeria may join world top 20 leading economics if... "*science and technology of digest"* , 4(6).