MANPOWER DEVELOPMENT IN TECHNICAL AND VOCATIONAL EDUCATION (TVE) 
A PREREQUISITE FOR THE TECHNOLOGICAL DEVELOPMENT OF NIGERIA

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Abstract

Technological development of a nation is inseparable and indispensable with technical and vocational education. Studies have revealed that Technical and Vocational Education (TVE) is the bedrock of development in most advanced countries of the world. There is therefore, a strong need for innovations in TVE programmes so as to enable the nation to meet up with her manpower needs. This paper examined the need for manpower development in Technical and Vocational Education for better technological development. The objectives and roles of vocational education have also been discussed. It is recommended that the major areas of developing manpower include efficient formal education, with more emphasis on technical and vocational education programme, equipping the TVE institutions with qualified personnel and adequate cum relevant infrastructures and re-introduction of the Technical Teacher Training Program (TTTP) for the training and retraining of vocational technical teachers.

The progress of any country in this present dispensation is viewed and measured by its technological development. It is the general belief now that no nation can stand the pace of development if her technology is not oriented towards the solving of her problems, be it social or economic. For a nation’s technological development to be maximal, she must optimize her manpower. Ibeneme (2009) opined that no nation can develop beyond the level of the human resources it has. To develop technologically requires amongst others a workforce that has the right skills, knowledge and attitude of which are acquired through technical and vocational education.

According to United Nations Education, Scientific and Cultural Organisation (UNESCO) and International Labour Organisation (ILO) technical and vocational education refers to those aspects of educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge related to occupations in various sectors of economic and social life (UNESCO and ILO, 2002). It can also be defined as a means of preparing for occupational fields and effective participation in the world of work. It also implies lifelong learning and preparation for responsible citizenship. In its broad definition Technical Vocational Education and Training (TVET) includes technical education, vocational education, vocational training, on-the-job training or apprenticeship training delivered in a formal way.

According to the National Policy on Education (NPE, 2004), technical and vocational education is that form of education which is obtainable at the technical colleges. Technical and vocational education is equivalent to the senior secondary education but is designed to prepare individuals to acquire practical skills, basic and scientific knowledge, and attitude required as craftsmen and technicians, at sub-professional level. It also implies lifelong learning and preparation for responsible citizenship. In its broad definition TVET includes technical education, vocational education, vocational training, on the job training or apprenticeship training, delivered in a formal and non formal way.

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Technical education mainly refers to theoretical vocational preparation of students for jobs involving applied science and modern technology. It emphasizes the understanding of basic principles of science and mathematics and their practical applications, rather than the actual attainment of proficiency in manual skills as it is the case with vocational education. The goal of technical education is to prepare graduates for occupations that are classified above the skilled crafts but below the scientific or engineering professions (Okorie, 2000).

Vocational education and training prepares learners for jobs that are based on manual or practical activities, traditionally non-theoretical and totally related to a specific trade, occupation or vocation. Vocational education is usually considered part of the formal education system, and usually falls under the responsibility of the Ministry of Education. Osisioma (1993) stated that technical vocational education is the aspect of education which is mainly concerned with the preparation of individuals for skill performance of task. Technical and vocational education gives individuals the skill to live, learn and work as productive citizens in a global society, hence, it is a prerequisite for the manpower development of a nation.

Development simply is the process by which some systems, place object of person enhances its state of being. Development must be measureable in terms of physical growth, socio economic improvement and general enhancement in he quality of life. There are different types of development among which is manpower development. Manpower development is the process of training and educating the individual for gainful employment thus meeting the society’s need for skilled manpower (Kanu, in Okafor, 1993). It is the power supplied by human physical effort and the number of persons available for any specific service, as for military duty or for industrial work (Ferguson, 1998). Manpower is the most important of all the needs of the industry.

Cole, (2008) stated that the focus of manpower development tends to be primarily on an organisation’s future manpower requirements and secondly on the growth needs of individuals in the place of work. Development of manpower means exposing individual or group of individuals to those experiences that will enable them to be intellectually matured to acquire skills that will enhance their abilities in solving their personal and financial problems. Hence, manpower development relates to the trainings and development of a nation’s human resources to achieve the highest productivity and most efficient interaction with other factors of production.

Development of Manpower and its Relevance in Technological Development of Nigeria

In any developmental efforts, technical and vocational education has a major role to play by providing the much needed skilled manpower in various spheres of endeavour, without the Engineers, Scientists, Inventors, Administrators and Managers of men and women will find it rather impossible to operate. The technological growth of any country should be structurally consistent with its manpower requirements. This implies that the institutions of learning should produce the right type of manpower in the right number, in the right quality and at the right time. Manpower development would demand the training of manpower both in quality and in quantity. Traditional apprenticeship, however was the source of manpower supply of the industries in the forties. One weakness of this traditional apprenticeship is its inability to provide the required quantity of manpower for the industry. The modern apprenticeship which has replaced traditional apprenticeship will also fail in meeting the manpower needs of the industry if it has no knowledge of the demand and supply of manpower in the industry (Ferguson 1985). So the modern apprenticeship should have the knowledge.

During the Third National Development Plan period, 1975-80, Nigeria manpower objective were focused upon:
1. The expansion of employment-oriented programmes and the removal of constraint on the growth and employment in various sectors of the economy.
2. The provision of industrial attachment programme, occupational guidance and similar schemes which are aimed at bridging the gap between education and training and the world of work and
The strengthening of existing educational training facilities and establishment of additional ones in identified area of need

The basic problem of most of the under developed countries is not poverty or natural resources but the under development of their human resources. The first step in development therefore should be the building up of human capital. This means improving the knowledge, skills, motivation, capacity, hopefulness as well as mental and physical health of all members of the community (Habison and Brambeok, in Okoro 1993).

Education is a means through which manpower is developed for technological development. Development of manpower does not terminate with the production of specified quality of manpower in any aspect of nation building nor does manpower development necessarily commence at the tertiary institution level. In fact, manpower development starts right from home before formal education is introduced to the child.

One of the national objectives is to be a self-reliant country. To achieve this objective the country has to train her citizen adequately to meet the challenges of the fast-changing industrial technology. These challenges include inadequate manpower needed for technological development and economic growth of the country. In order to meet these challenges government has adopted some development programmes and polices such as Millennium Development Goal (MDGs), Universal Basic Education (UBE), National Economic Empowerment and Development Strategy (NEEDS), Technical Vocational Education and Training (TVET), Supervised Industrial Work Experience Scheme (SIWES).

The National Policy on Education (2004) has placed great emphasis on Vocational and Technical Education as an important tool for technological and industrial development of Nigeria. Olutola (1986) observed that it has become generally accepted that there is a direct and casual link between trained and skilled labour force and a country’s level of economic development. For a meaningful development to be achieved, a country’s human resources must, among other things, be able to

1. Exploit and utilize the raw materials, power, labour and financial resources available.
2. Provide the framework for the country’s industrialization by determining, its methods, trends, scale and growth rate.
3. Design, construct, operate, manage and maintain enterprises
4. Plan and implement workable development strategies for the nation.
5. Produce majority of the goods needed by citizens of the country and at the same time generate enough output to ensure economic independence of the nation.
6. Explore and research into other natural resource potentialities of the country that could be tapped and utilized for economic development.

In order to meet up the above requirements, the human resources of any country must be developed through various skill acquisition programmes. Skills could be acquired through training, formal and informal education (apprenticeship). Skill acquisition through formal education can be obtained through vocational technical education. Vocational technical education is indeed, any form of education whose purpose is to prepare person’s for employment in an occupation or a group of occupation. As a matter of fact, Vocational Technical education is aimed at developing not only practical skills but also a whole range of other skills like desirable work attitude and habits that make the recipient a very creative and resourceful individual (Eze, 2010).

In any technologically advanced society training in different types of work is essential. Training is a continual process of helping employees perform at a high level from the first day the person starts to work (Donnelly, 1987). Donnelly further stated that training may occur at the place of
work or at a special training facility but it should always be supervised by experts in the educational process. This training must aim at preparing the individual to be self-reliant or independent. Once an individual is given the initial training on acquisition of skills and the skills are acquired, the individual can then improve on such skills as the need arises.

According to Agbato (1990) training could be acquired through the following avenues:

1. On the Job Training (OJT):
2. Job Rotation
3. Internal Training
4. External Training

**On the Job Training**

This avenue permits training the employee right on the job. It involves explanation, demonstrations, practice and criticism. In other words, the super-ordinate explains why a particular job is performed; he demonstrates it, gets the trainee to practice under his supervision and then criticizes the performance.

**Job Rotation**

It involves moving the trainee from one activity to another usually after short intervals. This acquaints the trainee with various activities of the organization.

**Internal Training**

This is usually done in the organization’s training centre. One of such courses is the introduction courses designed to acquaint the new entrant of the *modus operandi* in the organization. Other forms of training could be in collaboration with specialized outsiders.

**External Training**

These are usually organized by outside specialists like the higher institutions of learning, professional bodies etc. This can take the form of conferences, lectures, workshops, role play, courses and seminars etc. It could even be conducted outside the home base of the organization abroad.

**The Role of Vocational Technical Education in Technological Development**

All nations in the world are faced with the challenge of improving the capacity of the workforce to respond to their own national development needs and to the demands of a rapidly changing, more global and competitive world. The future success of nations, including individuals, enterprises and communities increasingly depends on existence and possession of transferable and renewable skills and knowledge. Many, both in the developed and developing world, recognize the important role that Technical Vocational Education and Training (TVET) plays in equipping individuals with relevant skills and knowledge in social, economics and technological innovation process. TVET was regarded as a core component of national development strategy in the international community prior to the 1980’s but was gradually neglected due to high cost of funding and support (Nwaokolo, 2012). However, the 21st century’s need for new skills to match advances in information, communication and technology has initiated the return of TVET to the international agenda (World Bank Institute 2000 in Ani and Ani-Ofoegbu 2011).

The level of manpower development of any nation depends on her technological growth (Dan 1979 in Onyia 1996). Vocational Technical Education is an important part of an education system, but it is a part of a whole that makes for the manpower development of a nation (Harvey 1976 in Onyia 1996). It is evident that manpower development and vocational education are inseparable, hence, Osisioma (1993) stated that the central objectives of Vocational Education revolves on the advancement of socio-economic, industrial and technological objectives that will eventually manifest themselves in improved standard of living for the citizen as well as in economic stability, industrial harmony and technological advancement. Vocational education is all about manpower development.
The roles of vocational technical education in manpower development of the nation succinctly are outlined as follows:

1. To provide trained manpower on applied science, technology and commerce particularly at sub-professional grades.
2. To provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development.
3. To provide people who can apply scientific knowledge to the improvement and solutions of environmental problems for the use and convenience of men.
4. To give an induction to professional studies in engineering and other technologies.
5. To give training and imparting the necessary skills leading to the production of craftsman technicians and other skilled personnel who will be enterprising and self-reliant.
6. To enable the nation’s young men and women to have an intelligent understanding of the increasing complexity of technology and the role technology plays in the world around them (Okoro, 1993).

Effective vocational education is the key to the production of skilled manpower that would be able to utilize the resources available in the country for national development. The development in China, Japan and Denmark are attributable, not to natural endowment but to the highly effective manpower in these countries. Vocational Education also makes people intelligent consumers of the products of technology in a world of unbridled commercialization (Olaitan, 1993).

Nowadays, technical and vocational education is regarded as a veritable instrument in creating new employment opportunities and income generating activities in the formal and informal sectors of the economy, the need for which has become more imperative due to the global financial crisis. TVE can play an important role in economic development and poverty reduction if due attention is given to customizing or targeting education and training provision of local needs. The need of technical vocational education cannot be over-emphasized on the manpower development of a nation. TVE is the engine for technological growth. No nation can fight a war without an army. In the same vein no nation can develop technologically without her manpower being trained adequately in the technical and vocational institutions.

Dearth of Skilled Manpower

Technical and vocational education is thriving in other countries of the world while Nigeria has neglected this aspect of education. The government is paying lip service to this form of education. The society lacks skilled technicians: bricklayers, carpenters, painters and auto mechanics, laboratory and pharmacy technicians, electrical/electronics technicians and skilled vocational nurses. As a result of poor training, some of the commercial drivers have sent many people to their early graves. The shabby performance of Nigeria’s house builders (mason/bricklayers, etc) is no longer news. For this reason, individuals with important projects now use competent technicians from neighbouring countries. Mention is not to be made of the havoc the unskilled technicians have caused in the power sector. The nation’s electricity supply is the greatest bottleneck to national development.

Worse still, the various Government Technical Colleges which are spread all over the country, have continued to perform beyond expectation in terms of both quality and quantity of trainings and trainees. There are issues of inadequate resources, the problems are numerous. Suffice to say that three of them namely: resources, curriculum and teachers, stand out clearly as factors that make or mar qualitative technical and vocational education in the country. Poor funding, inadequately prepared teachers, and low quality of students have continued to rubbish technical and vocational education thereby making it unattractive to the teeming youths who would have been empowered to become the engine of economic growth and development.
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Conclusion

No nation can make any meaningful socio-economic stride without well equipped technical and vocational institutions. Since technological growth of any country is based on its manpower requirement, our nation’s manpower development effort should aim at training skilled labour force for the public service, business, industry and self-employment. It has been noted that manpower requirement is not only concerned with quantity but more importantly with quality. However, the progress of any society lies in the productivity of its citizens. Greater productivity gives a nation advantage of economics of scale and lowers the costs of production and prices of goods and service.

Recommendations

The problems associated with technological development in Nigeria have however continued to increase. A critical analysis of these problems over the past years clearly proved that the quality of graduates produced in most tertiary schools in the nation have failed and continued to fail in meeting the manpower needs of the nation and in acquiring the entrepreneurial skills required of them to be self-reliant.

It is therefore recommended that the major areas of developing manpower should include provision of adequate facilities for technical and vocational education programmes, provision of qualified personnel’s and infrastructures in the TVE institutions.

The Federal Government should without further delay, re-introduce the Federal Technical Teacher Training Programme (FTTTP) which is geared towards training and retraining of technical and vocational teacher in the country. Besides, quick review of TVE curricula should be undertaken while in-service training and exchange programmes visits should be encouraged.

Investment in technical and vocational education and skill training should be taken seriously as no nation can compete effectively in the emerging global market place with poorly educated and unskilled workforce.

References


Ojo, A. (1986). The place of vocational education in the economic development of Nigeria. *The Vocational Education* 3 (1) : 7


