

TECHNICAL EDUCATION AND NATIONAL DEVELOPMENT

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Abstract

Development of modern economics has been possible through technical education. In this paper, attempts were made to see the role of technical education in nation building through development of human capital which is an essential factor for the growth of our nation. Attempt was also made to see the place of technical education in improving and developing the youths, the unemployed and the displaced workers. As these people form the bulk of the workforce, attempt was made to see how they could be trained or retrained to make them adjust and fit into the mainstream of the nation's economy. Recommendations were made with focus on national development.

Introduction

Technical education in this age of globalization, liberalization and rapid technological change " is a powerful agent of growth and socio-economic change. It has changed the fortunes of many nations of the world for the better; such countries as America, Germany, Canada and Japan, etc. Today, because of the wisdom America has in embracing technical education, she sets the pace, dictates to the whole world, be it in politics, technology or economy. The effect of technical education is barely felt in the nation, as we are unable to harness our natural resources, and improve productivity. The above situation has resulted in very low standard of living, high inflationary rate with attendant unemployment. In other words, the desired socio-economic change through technical education is yet to be felt in the country.

What is Technical Education?

Different scholars and organizations have attempted to define vocational or technical education. For the purposes of this work, technical and vocational education will be seen to mean the same thing. Historically, technical and vocational education was seen as a way of preparing a workforce for the industry, later in the developed countries as a means to improve the formation of human capital and increase productivity and employment, and still more recently in the developed world as a tool to enhance human development by creating capabilities, and putting them to use, for further human development and sustainable growth (Varma, 2000). Aguisiobo (1973) in Agbionu (1994) defined vocational education as organized and unorganized methods of securing occupational confidence and experiences of an individual whereby he/she learns proficiency. To UNESCO (1979), vocational education is the systematic development of the attitudes, knowledge and skill patterns required by individuals in order to perform employment task or tasks. In the definition of vocational and technical education, Agbionu (1994) said that vocational technical education is that education that has the purpose of contributing to the development of proficient workers who are as well good citizens. In the view of Varma (2000), vocational and technical education is human capital focused; it is skill-oriented and emphasizes background knowledge of the skill imparted.

The above definitions talk about gaining proficiency in order for people to work. Why do people work? People work to make a living, to meet the three basic needs of humans, that is, food, shelter and clothing. These three basic needs in the present time are primitive. The needs of any group of people or nation have long transcended those of food, shelter and clothing. The needs of humans

have grown to encompass the needs for wealth, prestige, physical fitness, political independence, economic independence, military might, transportation and communication, etc. (Okorie, 2000). To bring about the above requires sound, efficient and dynamic technical education. Technical education that will go beyond meeting the basic needs of our people, that will make technical college products to explore our environment and beyond with the intention of creating wealth and prestige for the nation is what is sought for here. This type of technical education should lead to a radical shift from the use of obsolete' tools, equipment and techniques that will increase the nation's level of technological acquisition and development, thus laying

a sound foundation for an enduring basis for social economic and industrial development of the nation.

Technical Education and National Development

Seers (1969), sees development in terms of reduction in the levels of poverty, illiteracy, unemployment and income inequality. To Coopan (1971), development is growth plus change; it is global, it is peace, and it is resource demanding. Development in human society is a many sided phenomenon which is complex and means different things in different societies in different situations and to different thinkers (Rodney, 1972). According to Varma (2000), the new theory of development sees human capital as the prime engine of growth, with countries that have given priority to human capital formation through functional, efficient but dynamic technical education, performing well in growth; jobs, income equity and poverty alleviation. New technologies through functional and • efficient technical education are making BRAIN POWER the productive force, not MUSCLE or MACHINE POWER as before.

The level of functionality of technical education at any given point in time in any nation sets -the limits on how much can be produced with a given amount of input in the nation. Technical education can relate itself meaningfully and fruitfully to the goals of national development by linking • the knowledge and skills acquired in the school with the world of work, Technical education is not bestowed on materials, but on human beings, that is human capital. It is human capital in the right and enabling environment through efficient technical education that has formed the principal source of economic progress of the developed nations of the world. Natural resources and size of labour force play a role in determining the economic well being of a nation, but natural resources and large labour force may be meaningless if the knowledge and skills for their effective exploitation is not there (Agboinu, 1994). In supporting the above stance, Schultz (1971), illustrated thus, Japan, Denmark and Switzerland, have shown tremendous success in modernization and development even though they have no coal, iron ore, oil or farm land that is naturally highly productive, they invested heavily in human capital. Human, not material makes development to take place.

According to Oranu (1992), human resources are key to national development in contrast to material inputs. He went further to say that it has been found that investments in human capital through technical education brings returns greater than investments in physical capital. Human development theory emphasizes formation of human capital through technical education for faster and better sharing of benefits because investment in human capital will yield returns:

- (a) It will sometimes economize the use of physical or natural resources.
- (b) The benefits are not only bigger but more equitably distributed than those from investment in physical or natural capital.

There are complementary linkages between investment in people through technical education and economic development. According to Varma (2000), mounting evidence shows that technical education is vital to accelerated growth, and that workforce education is a significant determinant of

productivity and national development. Technical education is indispensable if Nigeria is to develop. Lack of requisite skills (through inefficient technical education) necessary for performance of occupational tasks, bring about waste of the working time which translates to reduction in productivity with slow or retarded development of the nation. McBeath (1974), is of the opinion that training and development of human capital through efficient technical education to provide the skills that will enable people to work efficiently and effectively in the industries is an important part of productivity improvement, and that it is a veritable tool for national development. As posited by Fabricant (1961), productivity is an integral part of an effective technical education, and it is a measure of the efficiency with which resources are converted into commodities and services which a nation needs to develop. Higher productivity is a means to better levels of economic well being and greater national strength. For any nation to develop, the level of productivity must be raised meaningfully through investment in human capital via technical education which in turn leads to national development.

Technical Education and Unemployment

Can our technical colleges "be effective in reducing persistent unemployment and underemployment in the current context of rapid globalization and swift technological progress? Our technical colleges today appear to be producing students who are not quite suited for the available jobs in

the industries. In the view of Olawepo (1992), technical education is aimed at producing human capital who will apply the acquired knowledge and skills towards the improvement and solution of our environmental problems, thus making the environment more useful and convenient to us. If the above is true, why have we not achieved that goal? As put by Quales and Hannenberg (1982), the widening gap between the academic attainments and products of technical colleges and their competencies tend to be widening and adding to the frustration they suffer on leaving school, as their skills cannot meet with the demands of industries, hence they remain grossly unemployed. The study conducted by Hoerner and Home (1982), revealed that technical educators and administrators are worried that some of today's technical courses and programmes are obsolete and not relevant to the new and emerging jobs and technologies. The new and emerging technologies have made nonsense of the skills acquired by our technical college graduates as the skills they possess have a mismatch with the available jobs in the industries. The new and emerging technologies have also made nonsense of the "little advances and break through" of the developing nations, as the "lightening" speed of production of the new technologies in the developed countries push out products in millions, thus reducing cost of production per item, yet maintaining quality and the aesthetics of the finished product. Since the local industries cannot compete with the foreign industries as their goods are cheaper, production is reduced which in turn affects their income and capability to employ products of our technical colleges. Invariably, products of the technical colleges who on one hand are disadvantaged because the skills they possess are a mismatch are left largely unemployed.

If unemployment exists because of skills mismatch, provided there is an enabling investment environment retraining by the industries can clearly reduce unemployment. The problem of unemployment is many-sided. Industries hesitate to employ products of technical colleges even when there are vacancies. They prefer to employ casual workers who over the years have been exposed to the machines in their industries for training on the job. In the face of the above reality, technical colleges have a duty to see ways of equipping our students with relevant skills to enable them make corresponding shifts as today's industries are being restructured (Ogalanya, 1992). The above they have to do by equipping the workshop with new and functional tools and machines, while the teachers

adopt new but relevant techniques in training the students so as to make the students acquire the skills essential for entry and progress in new and emerging jobs, and in the process reduce unemployment.

Technical Education in the Place of the Displaced Workers Through Changing and Emerging New Technologies

The displaced workers as a result of the changing or emerging new technologies need to be retrained. The retraining should be through functional technical education that will enable them to function effectively in their probable new place of employment, and continue to contribute meaningfully to the needs of the society. Retraining them is highly essential; if they are to adjust and remain in the mainstream of the nation's economy. To be able to achieve the above, technical education programmes must be dynamic to be able to serve a broad spectrum of people who need it, develop them as they are necessary tools for growth and survival in this new era of changing technologies.

The programmes, content and place of training in the technical colleges as much as possible should be closely related or made to be a replica of where the products will work on graduation (Okoro, 1993; Oranu, 1992). The above is to avoid the initial retraining of products of technical colleges or "breaking in of new employees" (Osuala, 1992) by industries on employment; a move-they see as extra cost on personnel, and to an extent time wasting.

Recommendations

For technical education to contribute meaningfully to national development, the following should be done:

- (1) Technical colleges should be made to be a replica of where students will work on graduation;
- (2) The programmes of technical education should be dynamic to meet with the changing and emerging new technologies;
- (3) The youths, unemployed, the displaced workers and the under employed should be trained to be able to adjust and fit properly into the mainstream of our national economy and contribute to national growth; and
- (4) Technical education should be embraced by all the tiers of our governments and should be made

to be elastic (to accommodate all shades of people at any stage and any time), functional, efficient and dynamic.

Conclusion

Technical education can improve productivity, reduce unemployment, enhance human capital, attract investment, and ignite continuous development if the enabling environment is created. Emerging new jobs require higher levels of cognitive and analytical skills, presenting complex new challenges for technical education.

Functional technical education for the 21st century must provide skilled workers, enhance skill levels on a continuous basis, meet the needs of new industries, production processes and patterns, help overcome unemployment, social exclusion and marginalization of the unskilled, semi-skilled and the displaced workers. Technical education can meet the above conditions if one pre-condition can be met, and one supporting factor is present, that is, workers may be able to read, write and do arithmetic; and the governments must create the enabling environment, with policies that stimulate economic growth and encourage human development.

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