The Roles of Industrial Technological Education in Empowering Youths for Sustainable Development

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ABSTRACT

Nigeria is endowed with rich human and material resources to become the largest economy in Africa. Both to contrary, much of her potentials have remained unutilized and the rate of her graduates unemployment poses a national threat; submitting to a wild economic recession and political instability resulting to alarming increase in crime practices among the youths. Technical education as a development strategy that gives access to the untapped potentials can provide the base for sustainable development. Technical education is to rise to the challenge of the citizens by providing them with entrepreneurship skills, leadership skills, computer and employability skills. This paper highlights the roles of industrial technical education in empowering youths for sustainable development. Technical education is to rise to the challenge of the citizens by providing them with entrepreneurship skills, leadership skills, computer and employability skills which are incumbent in her formal and non formal classes. This paper highlights the roles of industrial technical education in empowering youths for sustainable development. The paper also identifies some factors besieging the effective implementation of industrial technical education and some recommendations were made based on the identified challenges.

Acronyms

ITE; Industrial Technical Education
VTE: Vocational and Technical Education

Introduction

The future of political, economic, technological and socio-cultural development of any nation depends largely on her youths, as they are always referred to as the leaders of tomorrow.

Because of the vital role played by this set of people, (the youths), their empowerment is diametrically a necessity that is laid upon vocational and technical education. This is due to the roles which this type of education plays in the development of national economy, particularly through its engagement in skills acquisition and job creation trends. Omeje (2013) states that the major thrusts of VTE in Nigeria, amongst other things, are to address issues of self reliance, job creation, youth unemployment, poverty and international competitiveness in skills development towards current and projected opportunities and challenges.

Acquisition of skills, no doubt, aids in arresting social ills, such as; armed robbery, stealing, prostitution and youth restiveness, to mention no more and typify with the case of Niger-Delta region where young people live in conflict zones due to dissatisfaction with the government officials and geopolitical problems not elucidated here. Industrial technical education has the potentialities to equip these youths with Conflict Transformation Skills (CTS), and Alternative Dispute Resolution Abilities (ADRA), especially Mediation and Peace Advocacy (MPA), incumbent in leadership skills (Asogwa 2010). Industrial technical education therefore, is a sure route to empowering the youths with these skills necessary for life and as well as platform for national sanity.

Industrial Technical Education (ITE)

This is the type of education that prepares her recipients for occupations and employment in industries. ITE is that aspect of education meant to serve industries with skilful and knowledgeable personnel that will work efficiently for the enhancement of industrial development, (Oviawe and Anavberokhai 2009). It is that education programme designed to produce effective vessels for our manufacturing industries.

Industrial technical education, according to Anaele (2005), has clearly defined areas, namely building and wood technology, electrical/electronics technology, metalwork and mechanical technology. At the senior secondary school level, the industrial technical education instruction is implemented in the areas of block-laying/building construction, carpentry, joinery, general woodwork, automobile, welding, foundry, plumbing, electrical installation/repairs and technical drawing (NECO 2009). At high institution levels, instructions in ITE is implemented in areas of building construction/woodwork technology; housing, trades such as carpentry, joinery, upholstery, furniture, cabinet, draughtsmanship, masonry, concreting, bricklaying, block laying and moulding, painting and decoration, tiling, roofing, woodcarving, screeding, rendering, paper making, wood machining.

Meaning of Sustainable Development

The notion of sustainable development was enunciated in an international forum from the first time in the World Conservation Strategy. A normative definition for the concept was first forwarded by the Brundtland committee in the following terms: "development which meets the needs of the present generation without comprising the ability of future generations to meet their own needs". This gained international recognition when it was embodied in the Brundtland Report, Our Common Future, published in 1987, a document that was set out to evaluate the serious environmental and developmental problems confronting the present day world and to propose means of solving them (Houtsonen 2004). This is in line with Hornby (2015) who defines sustainable as the ability to continue without causing damage to the environment, while Oguntimehin and Ifamuyiwa (2006) asserts that development is a process whereby a country achieves reasonable self-sustaining growth that facilitates and enhances industrial and technological process and interest of its people. Sustainable development therefore means all the

continuous planning, processes and executions of duties that provides for a better life of one generation and paves way for the future generations.

Meaning of Youths

Youth is a span of years during which boys and girls move from childhood to adulthood. Hornby (2015) defines youth as the state or time of being young. It is a time of emerging legal and economic independence (Efiong 2006). Youth is the life stage between childhood and adulthood.

Roles of Industrial Technical Education in Empowering Youths for Sustainable Development

Roles, here connotes the contributions of industrial technical education in empowering youths for sustainable development, which entails those provisions of industrial technical education relevant to sustainable development. They include building entrepreneurship skills, leadership skills, computer skills and employability skills in the recipients.

Building Entrepreneurship Skills

The process as incumbent in ITE programme curriculum prepares one to acquire certain attributes necessary for one to be successful entrepreneur. The most recurrently cited of these attributes as identified by a number of researches by Watt (1992), Onuoha (1994), Baty (1974), Nzeribe (1990), Osagbami (1983) and Humphery and Ronler (1980) in Asogwa (2010) among others which include; technical competence, initiative, characteristics, understanding, responsibility, courage, self-confidence, training ability, honesty, education, emotional maturity, administrative skills, self sacrifice, sense of justice, skill in interpersonal relationship, tenacity and thoroughness.

Other personal characteristics sine-qua-non for effective and efficient entrepreneurship are drive, mental ability, human relation ability, communication ability, self-evaluation, technical

knowledge, innovative, a certain level of knowledge, need achievement, industriousness/stamina and adaptability. ITE also incorporates two special courses of 2 credit hours each for pedagogical instructions in entrepreneurship from the Centre for Entrepreneurship and Development Research in the University of Nigeria, Nsukka. These include

- Introduction to entrepreneurship, and
- Business growth

Building Leadership Skills

The leadership skills acquired through ITE programme will go a long way in equipping her recipients with leadership qualities which will facilitate the developmental strides in a nation (Nwugha 2008). He further enlisted these qualities as follows:, honesty, loyalty, hardwork, accommodation, punctuality, creativity, diligence, tactfulness, discipline, vision, courage, trustworthiness, humility, pragmatism, discretion, affability, humanity, enthusiasm, consistency, optimism and charisma.

Building Computer Skills

Computer skills involves skills using the computer in terms of recording, analysing, interpreting, drawing, calculating, communicating information necessary for decision making. Computer itself is an electronic device used for processing data. It is a machine that receives data as an input, processes it and gives out the result as an output (Bakpo 2005).

ITE programme through projects, assignments and class instructions exposes her recipient to pass through stages of instruction and practices that would aid the acquisition of computer related skills. For instance the use ;of Auto CAD in the practice of building drawing.

Providing Employability Skills

Employability skills involve those skills that enables the individual acquire and keep a job. Employability is a person-centered, psycho-social, construct, decupled from one's employment status (Fugate 2004). This means that one can be employable without necessarily being in employment. The psycho-social model of employability according to Fugate et al (2004) comprises three separate, yet inter-related dimensions: adaptability, career identity and human and social capital

Adaptability is essential to success in current era of career insecurity (Hall 2004). Career identity represents the way individuals define themselves in the career context, and can be conceptualized as a "cognitive compass" used to navigate career opportunities. Social capital, according to Defillipi and Arthurs (1994), reflects the interpersonal aspect of employability serving to ameliorate the destructive consequences of stressful events such as unemployment while Mckee-Ryan et al (2005) suggest that human capital variable can also contribute to one's well being during critical time of unemployment.

For example, highly educated individuals may have higher re-employment expectations, limiting their anxiety during unemployment (Price and Fang 2002). Industrial technical education offers training in skill trades to equip recipients with skills that would make them adapt well in this modern age of science where technologies are found in every aspect of life. The provision of employability skills by industrial technical education programme is not far-fetched from its philosophy built on the production of graduates who will be equipped with all necessary skills and knowledge that will not only enable them to fit into already existing job opportunities in society but will also empower them with skills that will enable them to establish their own, and if possible, create job opportunities for others (Kpangba 1998).

Challenges to Effective Implementation of ITE Programme

ITE is being buffeted by myriad of problems whose recurrences has weakened its fabric and adversely affected the realization of its potentials. The very few of these problems to be highlighted by this paper include poor funding, elitism, lack of career and vocational guidance in schools.

Poor Funding: Inadequate funding has been the most devastating problem of skill development in ITE. Adequate funding should be a pre-requisite for effective implementation of ITE programmes in the country.

Elitism: This is described as the belief a group in society has because of superior privileges, powers and talents and tend to hold on to this belief through a system of education. For example, many elites will never allow their children to offer woodwork as that would be considered deviating from the honorable path of their profession and thus would be considered a disgrace to their families.

Government should associate high recognition with manual labour in Nigeria so that craftsman should enjoy the same recognition as their counterparts in developed countries like America this would increase students interest and desire to learn those practical skills incumbent in ITE programme.

Lack of Career and Vocational Guidance in Schools

Cultivation of the individual talents of all people deserves guidance support. There is a need for a general overhaul of the educational system to take cognizance and care of lapses as observed and provide effective career and vocational counselling system which would help people to choose occupation or career based on their needs and interest as well as national economy.

Inexperienced Instructors/Lecturers

Oviawe and Anavberokhai (2008) noted that the level of education depends on the level of teachers who teaches. Instruction of ITE programme requires experienced and skilled hands. The caliber of technical instructors now available cannot undertake any task above their capabilities as many of them are run-of the-will products. This is why most teachers of technology rapidly fall behind at the beginning of their career due to rapid changes and innovations in technology. Against this backdrop, Osinem and Nwoji (2010) assert that teachers are posed with the problems on how to use new technology and keep up with the teaching methods in various vocational training.

An instructor or a lecturer who have little or no experience in his specialization area may be adding up more confusion to the students. For instance inexperienced teachers who have no skill in operating a machine may end up using chalk board as alternative to operating a machine lathe.

Lack of Motivation

Motivation is the arousal, direction and persistence behaviour in achieving the goals of an institution. Motivated employees are more productive and creative. This shows that motivation is the key to performance improvement. Teaching job has been neglected to the dust. Fagbamiye (2005) observed that teachers are laboring under stressful condition and they are poorly motivated. This lack of motivation of the teachers has remained a rusting agent in the Nigerian Educational System. This not withstanding, the nature of instruction in skill oriented programmes is very different from others especially ITE which involves use of machines. Suffice it to stating the obvious that technical and/or technology teachers lacks adequate motivation and such pose a threat to effective ITE implementation in Nigeria.

Inadequate Training

Training in ITE is not diametrically relevant to real industrial situation. For instance many schools still rely on traditional hand tools for the training of students while deviating from the trend in industries which is the use of portable electric powered tools.

This is true in the view of Olufemi and Oyenus (2010) when they stated that the influence of technology has rendered traditional skills inadequate for the world of work while creating new sophisticated skills. This is also in consonance with Lawal (2012) stating that from all indications, there is lack of quality in technical training programme in the country today, because most of the institutions are faced with insufficient training facilities and equipment to train the students in their choice of occupations.

Moreover, teachers who are lacking in the requisite skills needed to teach technical courses would consequently turn out graduates of poor technological capabilities who would not know what to do even when investment opportunities and resources abound.

Corruption

Corruption is a dishonest, illegal or immoral behaviour especially from someone with power, (Wikipedia 2015). This has almost invalidated education in Nigeria and rendered it highly negative. Nigerians are wallowing in evil practices including various forms of cheating, illness, murder, cultism, examination malpractices, sex and drug abuse, gratifications and thwarting the truth to suit themselves such that the weak ones appear to accept their false saying “if you can beat them, you join them”. Examination malpractice as an unacceptable, equally an act of misconduct such as leakage, impersonation, writing on hidden parts of wears, encoding and decoding of the fingers for objective tests, changing of question papers and answers booklets before, during or

after examination has adversely buffeted education in Nigeria. In ITC especially during use of product evaluation method, corrupt students apply malpractice by contracting practical projects to roadside artisans and craftsmen who would d the job for money for them to pass, thereby learning them with no skill (practical skill acquired).

Time Factor: Time constraint is another ITE besieging factor that has to be taken into consideration. This is because the time allotted ITE subjects, courses or programme is inadequate considering its nature and practical's involved. For instance, the four year degree programme in ITE, not minding the option, has not been sufficient for the recipients to get well exposed to desired practical's skills relevant to self reliance.

Appropriate Strategies for Effective Implementation of ITE in Nigeria

Evidently, ITE has the full potentials to prevent the youths from becoming socially misfits. This has been supported by the expression of Bebebiafrai (2000) who maintained that education is an investment by the state for continued existence of development and general welfare of its citizens.

But these potentials cannot be tapped if ITE is not effectively implemented. It becomes imperative to outline suggested strategies for effective implementation of industrial technology education in topic to improve on its standard of the quality.

These include:

1. Adequate funding and financing of ITE by individual (philanthropists), industries and the government.
2. Teachers and craftsmen should be highly paid or motivated.

3. Community and industries partnership and collaboration.
4. Employment of well trained and experienced instructors and teachers who would work in technical institutions.
5. Inculcation of career and vocational guidance into all centre or levels of technical institutions.

Conclusion

Industrial technical education is concerned with professionalism for industrialization. No nation could generate progress unless it promotes technical aspects in its fields. The progress of a country depends much upon her industrialization. For a handsome economy, technology must be developed for developing technology, high skilled team, high amount of money, time and government consent are needed. It is hoped that if industrial technical education is effectively implemented, her streaming potentials would be adequately tapped as a panacea to the challenges of youths unemployment by empowering them for sustainable development.

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