RE-ENGINEERING TECHNICAL EDUCATION FOR EMPLOYMENT AND SELF PRODUCTIVITY IN NIGERIA

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Abstract

This paper focuses on the re-engineering of Technical Education for Employment and Self-Productivity. It also attempts to highlight the vision and mission of this system of education. The strategies for realizing the vision and attaining the mission are highlighted. Some of these strategies lead to employment, self-reliance, computer literacy and the formation of non-government organizations. The re-engineering effort also highlighted some key areas where it should be highly effective. This paper enumerates some of these areas to include entrepreneurial development, ICT development, millennium development goals, vision 2020-20, and the even point agenda, and concludes by suggesting some recommendations.

Education remains a vital transformational tool and formidable instrument for socio-economic empowerment, wealth creation, employment generation, poverty eradication and value orientation. According to Lucky and Emehi (2008), a functional and worthwhile educational system in Nigeria should emphasize business, vocational, technical and entrepreneurial education aimed at empowering the people, raising their standard of living and providing for for-self-sufficiency.

It is in this vein that the National Policy on Education (2004) spelt out the pre-vocational and technical education as a form of training offered to students and individuals for the purpose of:

(a) Introduction to the world of technology
(b) Acquiring technical skills
(c) Exposing the students to career awareness and
(d) Enabling youths to have an intelligent understanding of the increasing complexity of technology. From the foregoing definition, one is tempted to ask: How can technical education be packaged to make its beneficiaries in particular and the society in general more productive, self-employed and reliant in this present day

technological advancement? How can it be re-engineered for it to fulfill its vision, mission, aims and objectives with reference to entrepreneurial development, ICT development, skill acquisition, the seven point agenda of the government, Millennium Development Goals (MDGs), vision 2020-20, etc.

Vision of Technical Education

This implies looking ahead or dreaming what the future of technical education will be in Nigeria this 21st century. According to Oranu (1998), the expected vision of technical education at this threshold of technical information explosion will among others, include:

(a) Fresh and new demand will be imposed on education system.
(b) The structure and organization of society will be affected by the dynamics of technological revolution.
(c) Less emphasis will be placed on paper qualification. Employment will be based on salable skills.
(d) The future student will be one with multiple skills and qualification requirements for graduates of technical education will change.
(e) Cultural and traditional practices will be done away with as women will participate in economic activities.
(f) There will be curriculum changes as emphasis will be placed on skill acquisition, entrepreneurial development that will lead to self-employment.

According to UNESCO Report (1990), the above stated vision will place a three-fold demand on technical education system, namely:

i) The need to upgrade the educational background of individuals to incorporate the emergence of new body knowledge;
ii) The growing interdependence of new technologies leading to the need for broad-based cross-disciplinary education and training for all occupations, and
iii) Continual upgrading of the responsibilities of lower levels of professional manpower facing much higher expected levels of competence than before

(g) The re-engineered technical education must teach conceptual innovation and develop the ability to identify and associate variables and become perceptually flexible. It is in this sense that the UNESCO report cited earlier stated that:

"In order to meet the need for training in these newly required skills, education must change, emphasizing synthesis rather than analysis. Education must respond to change, not by responding to new demands on circumstances, but rather by integrating old and new technologies harmoniously. It must engender a sense of the future, so that both learners and institutions are prepared for change and constant renewals; and it must facilitate the development of flexibility and adaptability".

According to Ugeh and Ogben (2009), prior to the introduction of the 6-3-3-4 system of education, education in Nigeria has basically theoretical. Therefore, the re-engineering process, according to them will:

(a) Make some courses, curricula, training programmes and teaching methods to become obsolete. The future learning and teaching will require increased cooperation between education system, professional bodies, cooperate bodies, business enterprises and industries.

(b) The teachers of the 21st century will be marked by flexibility and versatility and will be amendable to innovations due to new technologies.

(c) Equipments and facilities such as computers and modern electronic devices will be introduced in technical schools and college to make teaching and training more practical than hitherto.

Mission of Technical Education

For what purpose was technical education set up to accomplish? What will be the effect of it being re-engineered? The National Policy on Education (NPE) (1981) defined technical education as "that aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge".

Education Degree 16 of 1985 as cited by Towe (1989), described technical education as, "education given in institution other than the universities that is polytechnics, technical colleges, and other technical and technological institutions providing both scientific knowledge and practical skills required for a specific trade, employment or profession as craftsmen technicians, technologists, engineers scientists or similar levels in business in the filed of engineering, applied science, agriculture or business". As reasoned by Oranu (1998), the NPE definition and the Degree 16 as has as its main thrust the acquisition of practical and applied skills in scientific trades and occupations. Since trade skills are specific, its transferability to another skill is extremely limited. For example, woodwork skills cannot be transferred to that of electrical or mechanical. This limitation therefore inhibits the attainments of the mission of the present day technical education programmes. To overcome this limitation, the NPE (2004) defined/stated the present mission of technical education as follows:

1. To provide trained manpower in applied science, technology and commerce particularly at sub-professional levels.
2. To provide the technical knowledge and vocational skills necessary for agriculture, industrial, commercial and economic development.
3. To provide people who can apply scientific knowledge to the improvement and solution of environmental problems for the use of convenience of man.
4. To give and introduction to professional studies in engineering and other technologies.
5. To give training and impart the necessary skills learning to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self-reliant, and
6. To enable our young men and women to have intelligent, understanding of the increasing complexity of technology.

Nwaokolo and Otubelu (1998), stated some of the effects that will be felt if the present mission of technical education is re-engineered or reformed. Some of them are that:

1. The gap between technical education programme preparation and students' entrance into the world of work will be bridged.
2. Technical education will always form the link between the acquisition of multiple disciplinary skills and the employment market.
3. Job obsolescence will be wiped out as teachers will be trained and re-trained and policy matters will undergo re-orientation to cope with increased adaptation to new technologies.
4. Labour intensive occupations will diminish in favour of high technology and capital intensive occupations.
5. The main focus of training will be on self-learning technologies such as Computer Aided Design (CAD), and Computer Aided Manufacture (CAM) and other simulation based training.
6. Self-employment and entrepreneurial skills will be provided since the curriculum will show the students how to establish their own business enterprise which will in turn boost self-confidence, self-reliance and
7. Change in our value system by encouraging the dignity of labour.

Strategies for Vision Realization and Mission Attainment

What strategies must we put in place to make the vision realizable and the missions attainable?

a) Olaitan (1996), stated that for technical education vision to be realized and its mission attained, this system of education should be the core of both the individual's and society's economy through the acquisition of skills, individual could explore their environment and harness the resources within it, which could serve them and the society.

b) Gbinigie (2009) is of the opinion that for the vision and mission to be achieved, the beneficiaries of this system of education should have several options to choose from such as:

i) Securing employment either at the end of the whole course or after completing one or more modules of employable skills.

ii) Setting up their own businesses and becoming self-employed and be able to employ others, or

iii) Pursuing further education on advanced technical education programme.

c) According to Edwin (2009), the National Board for Technical Education id presently overloaded with Polytechnics, Monotechnics, Technical Colleges and Vocational Schools policies and guidelines. He suggested that a separate board to be called National Vocational Education Commission be established. This commission, according to him should handle matters arising from technical and vocational college.

d) Ayomike (2008) saw the advantages of reformation from the side of non-governmental organizations (NGOs). According to her, the NGOs can transform technical education in the following ways:

i) **Employment** This, the NGOs have done and are still doing by employing youths who have completed and have the acquired needed skills for sustainable development in their various trades.

ii) **Scholarship Awards** The NGOs have contributed remarkably in the award of scholarship to deserving students in vocational and technical areas.

iii) **Computer Literacy** The knowledge of computer cannot be singularly attributed to only institutions of learning because of gross inadequacy of computers compared to the number of students. By the participation of NGOs in manpower training, computer training and education is almost available in all parts of the country.

iv) **Workshop/Seminar Training Programme** Some NGOs provide infrastructure of training of youths, establish trade centers, contribute to curriculum development in some technical areas through public lectures and seminars, thus increasing the number of trained skilled manpower in the state of the federation.

e) Oranu (1998) summed it up this way:

1. The Nigerian child, youth and adult should be exposed to technological education so that their lives will be impacted by what the new technologies will offer.
2. Teachers of technology should undergo constant training through in-service programmes for relevance and updated knowledge.
3. Private sector participation should be encouraged, especially in the profession of modern and up-to-date technical equipments.
4. There must be equality of educational opportunities both sexes. Adequate remuneration for technical staff must be maintained including good working condition.
5. Since technology education is capital intensive, the government should establish monitoring strategies, not only to ensure accountability of funds, but also effective teaching and learning.

Areas for Effective Re-engineering technical education can contribute in on small measures in creating employment to teeming youths and thus make them to be self-reliant and productive. Some of those what? specify.

1. **Entrepreneurial Skill Development** According to Abbas and Muazu (2010), the prospects of entrepreneurship can be greatly enhanced through technical and vocational education. Accordingly, jobs in areas bakeries, restaurant, fashion and design, etc can be created from Home Economics. In Agriculture, Poultry, Piggery, carpentry and joinery, furniture and cabinet, roofing, door frames, etc. and in metal work occupation, such as welding and fabrication, author repairs and panel beating readily comes to mind.

2. **ICT Development** Chukwuemeka and Agreen (2009) described Information and Communication Technology (ICT) in the context of education as the

combination of technologies for collecting, storing, processing, transmitting, controlling, communicating and delivering of information related to teaching and learning processes. According to Obanya (2002), the achievements of educational goals (Technical Education inclusive) is independent on the spread and efficient application of ICT equipments and facilities. Usoro, Otuekong and Usoro (2010) listed the following as some of the areas where ICT can create jobs opportunities: Internet work, teachers for distance education learners, network programming, equipment maintenance and repairs, curriculum developers and administrators.

3. **Millennium Development Goals (MDGs)** The Millennium Development Goals (MDGs) were formulated in the year 2000 and endorsed by about 190 countries including Nigeria. These goals are:

1. To eradicate extreme poverty and hunger
2. Achieve Universal Primary Education
3. Promote gender equality and empower women
4. Reduce child mortality; improve maternal health, and combat HIV/AIDS, malaria and other diseases.
5. Ensure environmental sustainability
6. Develop a global partnership for development.

Blessing (2008) stated that to achieve the above goals, knowledge of different skills from technical education is needed.

4. **Vision 2020-20** This is aimed at placing Nigeria among one of the 20th largest economists of the world by 2020. Oguntade (2010) stated that for vision 2020 to succeed, the economy must be transformed and this will require deployment of productivity enhancing technologies and innovations, significant in the efficiencies with which major sectors of the economy operate in increased employment opportunities for labour and capital.
5. **The 7- Points Agenda** This was aimed at solving some of the development problems of the nation. The 7-Points are:

a) Power and energy
b) Agriculture and good security
c) Mass transportation
d) Land reform
e) Qualitative and functional education
f) Wealth and gainful employment
g) Security and Niger Delta.

Okomanyi (2010), stated that the uniqueness of technical education can be appreciated along the following perspectives:

i. It is taught and acquired in relation to specific occupation \
ii. It is of more value to the recipient than any one else
iii. The skill acquired is easily transferable to other candidates

iv. It is high amenable to apprenticeship
v. It is gender and working friendly.

According to him, the beneficiaries of technical education, being capable of self-employment, can also generate employment and therefore are of great value to the society. Therefore to realize the objectives of the 7-point agenda, a conscious and vigorous effort must be made to improve and expand the technical education system.

Conclusion

This paper has tried to quantify and qualify the manner and ways of technical education in terms of reformation or re-engineering. There are a lot of advantages to be gained if the repositioning is successfully carried out to the letter. The re-engineering of technical education will create positive impact on our economy, improve individuals professional skills, create self-reliance and check unemployment through some inbuilt mechanism.

Recommendation

There is no gainsaying that technical education holds the key to technological development and advancement. For these to be achieved, some of these suggestions are proffered.

1. The National Policy on Technical/Technology Education (NPTE) should be promulgated.
2. The visions and missions of technical education should be clearly stated in the NPTE.
3. Professional bodies and corporate organizations should be made to contribute to the curriculum of technical education programmes.
4. The governments (Federal, States and Local) should no longer pay lip-service to education sector in general and technical/technological education in particular.
5. Since the world is moving at a fast speed technologically, subjects such as ICT, entrepreneurship and computer education in all forms should be made compulsory in technical schools, colleges and even in the universities.

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