

Technology Education As An
Impetus For Sustainable National
Economic Empowerment
Development Strategy (2015)

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PROVISION OF ADEQUATE WORKSHOP TOOLS AND EQUIPMENT
FOR TRAINING IN TECHNOLOGY EDUCATION INSTITUTIONS
TOWARDS THE REALIZATION OF THE GOALS OF NATIONAL
ECONOMIC EMPOWERMENT DEVELOPMENT STRATEGY (NEEDS)

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Abstract

It is proven enough that workshops in technology education institutions in Nigeria lack adequate tools equipment and machineries for practicals. This results in the production of self-made graduates who are not productive and cannot fit into the world of work. This paper assesses the need for provision of adequate workshop tools and equipment for training in technology education institutions towards the realisation of the goals of National Economic Empowerment Development Strategy (NEEDS). It also highlights the concept of technology education importance of workshop tools and equipment in technology education and the problem of inadequate supply of workshop tools and equipment in technology education institutions. Conclusions are drawn and recommendations made in order to generate funds for the procurement of tools and equipment in the workshops of our technology education institutions.

Introduction

The economy of Nigeria is presently characterized by very deep depression. Education generally and technology education in particular has received its own share of blows thrown by the economic depression. Educational infrastructure is decaying. The teacher's morale is at the lowest level. Laboratories and workshops have been turned into classrooms because the tools, materials and equipment are no longer available. Teachers of technology education have therefore resorted to talking to students about technology. This is because practical activities that characterized technology education no longer features in their lessons because the teaching materials are not available.

With the present economic crunch, it becomes highly uncertain that the government alone could adequately equip technology education institutions with the required tools and equipment. The need for adequate supply of workshop tools and equipment in our technology education institutions need not be overemphasized. Technology education serves as a vehicle and is a pre-requisite for technological development and self-reliance (Oranu et al. 1992). Adequate supply of workshop tools will facilitate training to prepare young people for work and skills required for operating machines or doing any specific job and also provide such

knowledge and skills that are required for technological development (Ohiikhena, 1974), which is in line with the objectives of NEEDS.

Concept Of Technology Education, Workshop Tools And Equipment.

Technology education is the term given to vocational technical education. It is the term used to describe the experiences of the individual whereby he learns successfully to carry on gainful occupations (Olaitan, 1986). Technology education deals with techniques such as skills, ability, experience, aptitude, creativity and knowledge, which are essential ingredients for effective technological and economic development of a country.

The National Policy on Education, (1998) defined technology education as a form of education which is obtainable at the technical colleges, designed to prepare individuals to acquire practical skills as well as basic scientific knowledge required to produce craftsmen and technicians at sub-professional level. The educational policy also specifies the aims of vocational education as to:

- Provide trained manpower in applied sciences, technology and business particularly at craft and advanced craft and technical levels.
- Provide the technical knowledge and vocational skills necessary for agriculture, commerce and economic development.
- Give training and impart the necessary skills to individuals who shall be self-reliant economically.

The organs of technology education include automobile technology, building technology, electrical / electronics technology, metal work technology, wood work technology, applied mechanics / engineering science, maintenance and repairs of equipment, material technology, food, agriculture, mechanization etc. source National Board for Technical Education, (1985).

All these segments of technology education cannot survive without adequate provision of relevant and sufficient equipment, tools and consumable materials for practical in their areas of specialization. These tools range from simple hand operated machines to complex computer controlled machines capable of great precision. (McCarthy, et al, 1984). According to Aina (1981), if we must transform our ambiguous program of technological advancement into an effective vehicle of development, then equipment, tools and materials required for training of middle level manpower must be given utmost priority by the government, to enable individuals to acquire the practical skills to be employed or become self employed which is in line with the objective of National Economic Empowerment Development Strategy (NEEDS).

National Economic Empowerment Development Strategy (Needs)

Under NEEDS, education is considered the key bridge to the future. Thus, education is a key instrument to empower the individual to take charge of their lives in the future. In this regard, the strategy will aim at the empowerment of the citizenry to acquire skills and knowledge that would prepare them for the world of work. In order to achieve this, it will address the following crucial issues:

- Faithful implementation of the free compulsory Universal Basic Education Law to among others.
- Improve education infrastructure
- Expand institutional capacity to produce quality manpower.
- Expand total school enrolment to reduce the literacy level.
- Review of school curricula from primary to tertiary to incorporate vocational and entrepreneurial skills.

- Re-tooling and re-positioning of technical schools to be able to address the technical manpower needs of the economy.
 - Establishment of more vocational centres to encourage Nigerians to embrace vocational education.
 - Review of school curricula at all levels to incorporate the study of information and communication technology (ICT)
 - Sustain existing vocational / on-the-job training programmes of the Federal Government and encourage States to do the same.
 - The National Youth Service Corps will be reviewed with a view to using a good part of the service year to develop entrepreneurial and basic business skills in the corps members. The orientation period will be extended to include a one - month period for formal training on entrepreneurship. Following the training Corp members will be posted mainly to industrial (including small scale enterprises) and agricultural concerns so that the exposure will encourage them to consider the possibilities of post service self-employment. (Nig, 2004).
- With this development the possibility of achieving the aims and objectives of technology education will be greatly enhanced by giving individuals training and imparting the necessary skills to become self-reliant economically as stipulated in the national policy on education, revised (1998).

Importance Of Workshop Tools And Equipment In Technology Education.

- The role workshop tools and equipment can play in technology educational institutions in the training of students for the acquisition of practical skills to become self-reliant economically cannot be over emphasized. Where tools and equipment are available for use in the school workshop, it enables the students to use both hands and brains in learning. This places them in a better position with adequate skills to produce materials by themselves through projects for example spanners, relays, amplifier, models in building etc.
- Skills development by students through the use of tools, equipment and machines in the school workshop promote their desire to be creative, producing models and other samples that could be sold for revenue for the institutions concerned.
- For a nation to develop, there must be a sound technological know-how. This of courses has to be achieved if the learners are equipped with tools to work and to practice with these workshop tools and equipment supplied, the learners would be relaxed at work or training and practice with great confidence.
- Skilled students as a result of adequate utilization of workshop tools and equipment would also be engaged in repairs and maintenance of broken-down tools and equipment which are common in our technology education workshop. This would promote facility management and reduce wastage.

Problems Of Inadequate Supply Of Workshop Tools And Equipment In Technology Education Institutions.

- With inadequate supply of workshop tools and equipment, technology education institutions produce graduates that are half-baked or unproductive because they lack the practical knowledge to enable them fit in to the world of work and become useful to themselves and their society.
- Training given in the institutions are more theoretical than practical and since the teacher could not give more than he has he limits his trainees to only the theories of technology as

- A result of this the trainees have no enough practice before examinations they would have no other option than to revert to more memorization of principles.
- Experience has shown that most students come in contact with most of the workshop tools and equipment only during the Students Industrial Work Experience Scheme (SIWES). The effect of this is to both students and the institutions that deployed them is not encouraging. Most students look naive and uncomfortable at the manipulations of some workshop tools and equipment they are denied of seeing in their institutions. However, these students would be ready to recall by heart the parts of the machineries and how they operate. Yet they lack the skills to operate them.
- Workshop of some technology education institutions in Nigeria look like exhibition centres. The equipment installed are not used or operated because there are no consumable materials provided for the use on the machines. The machines are always looking idle because of lack of usage. Unavailability of consumables for practicals are great constraint to effective technology education. This has direct effect on the products of our institutions and thus result in low productivity of labour force.

Conclusion

It is evident enough that most workshops in our technology education institutions lack adequate tools and equipment that will enable the students carryout practicals to acquire necessary skills to make them to be employed or become self-employed. This happens to be the main goal and aspirations of NEEDS.

Therefore, government alone can not fund technology education, with the recent policy reforms on privatization and liberalization, all stakeholders in technology education must hands on deck to ensure that technology education is adequately funded in order to provide needed infrastructure to enable our students to be practically oriented and become productive to be able to address the manpower need of the economy in line with the objectives of NEEDS.

Recommendations

Provision of adequate workshop tools and equipment in our technology education institutions is capital intensive. Therefore, government cannot single handedly finance education adequately hence the need for additional sources of funding. In order to provide adequate workshop tools and equipment in our technology education institutions, the following recommendations are made:-

- Workshops in technology education institutions have production units. These units should be adequately funded so as to be resourceful and productive. They can help in the maintenance and repairs of equipment and facilities in the institution; while at the same time selling the products of their units to generate revenue.
- The community should be involved in the provision of infrastructural facilities, workshops, tools and equipment that will be used by technology education students.
- The private sector, manufacturers and other employers of labour have a big role to play in funding technology education. One quarter (¼) of the Education Trust Fund (ETF) contributed by companies should be kept in special account dedicated to technology education. The money should be used to procure equipment, machines, tools and other infrastructural facilities.
- Non-governmental organizations (NGOs) should go into effective networking and collaboration among themselves to pull resources together in order to generate funds for the procurement of tools, equipment and machines in the workshop.

- Identifying individuals (and their domains) from wealthy individuals, philanthropic organizations, professional associations, corporate bodies, teacher unions, organizations, international donor agencies etc. can be used to fund technology education initiatives to enable them acquire and equip up to date workshops.

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