

**Technical and Vocational Education Facilities:
A Case o Concern in the Education Reform Agenda**

Kalat, I. K.

**Department of Industrial and Technology Education, Federal
University of Technology, Minna. Niger State**

Abstract

This paper aimed at high lighting the unwanted effects of lack of tools in workshops as it affects skills acquisition. It elucidates aspects such as: empirical analysis of workshops situations; importance of workshop tools; the consequences of ill-equipped workshops; the index of self-reliance. It recommended among others that, government should make frantic efforts to provide institutions with functional machine tools, hand tools and make available funds for the smooth running of workshops in general.

Introduction

Educational facilities in technical colleges are the material things that facilitate teaching and learning in the technical colleges (Ogbodo, 1995). These include the college buildings such as lecture rooms, laboratories, workshops, Dining hall, Assembly hall etc. They also include teaching aids, equipment, machinery, furniture, electrical fixtures and devices such as modern educational hardware in the form of diskette, films and transparences. Educational facilities according to Castali (1997) are those things of education, which enable a skilful teacher to achieve a level of instructional effectiveness that far exceeds what is possible when they are not provided. These facilities are numerous, they are materials and services that help to facilitate teaching and learning in a school system.

In another form, educational facilities are the operational input of every instructional programme. The sources of any instructional activities are a function of the availability of the necessary educational facilities. It is a well known fact that there is no way a technology teacher can teach effectively a practical aspect of a technical course when there is no functional required tool machine or equipment. It is in support of this that Payate (2002) stated thus: the availability and effective use of educational facilities for training or

instruction in any technical college enhances the vital process of skills acquisition, which will in turn empower its beneficiary to be productive and contribute to the national development.

Normally, in technical education, buildings and well equipped workshops of paramount importance. But unfortunately, this is not available in most of the technical colleges. Okorie (2001). The instructional facilities in consonance with industrial development in most technical colleges are grossly inadequate. He went further that "not only that they are few in number but most of those installed are out of date and need replacement. This could be attributed to the fact that the essential tools, heavy machines etc, used for misfunctional purposes in technical colleges are foreign and consequently scarce.

Olu (1991) rightly pointed out that lack of and poor training facilities is constituting a serious drawback in the development of technical education in our technical colleges. On the other hand, according to Uwadiae (1992) even if it were possible for training institutions to purchase all the need equipment and tools, problems would still exist so long as these machines and tools are imported. Worst still, no manpower or expertise to handle the machine, service and maintain them, spare parts to replace damaged ones are unavailable.

Empirical Analysis of workshop situations

As it is the case in some technical colleges, workshop buildings hardly exist let alone the materials for the workshop. Adewumi (1992) said the same thing when he visited some technical colleges and found that many of them were without workshops. Where there were workshops, the equipment was not installed. He discovered that most of the machines were left on the corridors of most of the technical colleges. Obi (1993) asserted that during inspection exercise of schools in Oshimili Local Government of Delta State in which he form part of the inspection team. It was observed that less than 18 percent of the colleges supplied with workshop equipment actually set up functional workshops to keep this equipment actually set up functional workshops to keep this equipment. Some merely locked up these equipment in their stores without any form of maintenance. In the course of time, many of these colleges were

visited thieves who made away with this equipment. Even in this condition there was no way of telling which equipment was stolen and which was left because the records were not properly kept.

In the same vein Fafunwa (1976) regrettably observed that a lot of equipment imported to accelerate technological education in this country has remained uninstalled, under-utilized and uncatered for. Also Mbata (1990) revealed that some laboratory equipment, workshops and classrooms are sub-standards not to talk of being properly maintained. Nigeria is a developing nation with high manpower needs and cannot afford to toil with or mismanage her hard-earned tools and equipment, which are provided for skill acquisition. If the equipment is wasted, the technical education objectives will not be achieved.

Fafunwa (1996) argued that one major setback in the teaching of technical subjects in many technical colleges is the lack of locally produced technological equipment. This statement implies that shortage of sophisticated machines; tools and equipment for skill acquisition in technical colleges could be reduced by improvisation. Improvisation is needed in the technical college education system to make up for the short supply.

The importance of workshop tools

Technical education is the type of education that involves acquisition of specific skills. It therefore equips one for self-reliance. Oranu et al (1992) see technical education as a "sine qua non" to the new world technological order. Okafor (1992) also postulates that technical education involves such fields as trade and industrial education.

These areas mentioned above cannot survive without workshop tools and equipment. These tools range from simple hand operated machine to complex computer controlled machine capable of great precision (McCarthy et al, 1984). Furthermore workshops tools are the working instruments at different fields. They are designed to suit the work or operation they carryout. Technical education is the aspect of learning, which equipped one with practical skills. Therefore workshop tools are the bedrock of technical

education. Contrary to this, equipping of technical education institutions with workshop tools has remained problematic, because it is capital intensive. Olaitan (1986) is of the opinion that updating of absolute equipment and spare parts are equally necessary. Our modern operations depend largely on machine tools technology. It is however necessary then that our technical institutions be adequately supplied with workshop tools Victor (1948) is of the opinion that high productivity by machine yields high wages. As a result, high income gives the workers more purchasing power; He went further to ascertain that America enjoys the best standard of living because of high standards of productivity by machine this almost goes to prove that if our technical institutions are well equipped with adequate workshop tools, a lot will be achieved. With that also, the Nigerian citizens would have a better standard of living. For a nation to grow, there must be a sound technological know-how completed by a sound technological know-why. This of course has to be achieved if the learners are equipped with the 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.

It is the hope of every Nigerian that the knowledge of technical education would be utilized for the solution of societal problems. When the human potentials are developed by constant manipulation of workshop tools, a lot of discoveries are made. If the learners are properly drilled, using adequate tools, definitely they could be involved in activities such as the extraction of solid minerals, construction of beautiful buildings, development of efficient transportation means, quantities and qualitative manufacturing sophisticated and comfortable means of communication, etc, The fact still remains that every product especially in technical institutions requires the use of good machine tools. This machine therefore constitutes a stepping-stone to technological development.

With the little or non-supply of workshop tools, technical institutions produce graduate that are either half-baked or unproductive. The numerous problems of the society that are expected to be solved are not tackled constantly; the tone of such technical colleges is marred. This therefore

develop wrong opinion in the populace such institutions and hence the type of education. Ibe (1994), experience has shown that most students come into contact with most of the workshop tools only during the supervised industrial work experience scheme (SIWES). He went further to add that, the effect of both the student and the establishment that deployed them is not encouraging. Most student's look naive and uncomfortable, at the manipulations of some workshop tools they were denied of seeing in their technical colleges.

Memorization and regularization of more facts is when no workshop tools are made available to the students as to enable them have enough practice before examination, they would have no other option than to revert to mere memorization of the principles which they simply regurgitated.

Inadequate supply of workshop tools and equipment to students of technical institutions creates room for examination malpractices as the tendency for the exchange of knowledge and ideas during examination would not be ruled out. This is because these students having been inadequately involved in the use of tools lack confidence in them. This of course could pose a serious problem of control for the examiner.

Nigeria doesn't seem to keep pace with technological development especially on matters that relates to industrial competences, infrastructural base and socio-economic and cultural innovation. She can be described as a laggard although late determined efforts are made towards solving some of the problems. It is not short of reality to say that, as long as technical education is efficiently handled, it would be idle expecting significant improvement in industry and in our quality of life entirely. A way must be discovered to relate technical skills output with industrial task objectives and until and unless this linkage is sufficiently considered, appreciated, and addressed, it will be unrealistic expecting industrial miracle in the country. It was our believe that it was practicable for advanced countries to willingly transfer their technology to the less developed ones but experience has revealed the fact that such a belief was just an illusion. It is now under the bright light that no country can consciously transfer its technology being the basis of the "status-quo" diplomacy to another less developed country. We are then left with no option

than to embrace the fact that our development depends on proper problem analysis, correct policy initiative, judicious policy implementation, periodic evaluation and revision as well as the elimination of the "Nigerian factor".

The Consequence of ill-equipped workshops

The students therefore should learn through the process of doing. Graduating students from technical institutions without available practical knowledge of the equipment are not result oriented due to reasons such as:

- a. Students non-conversant with practical equipment
- b. Inadequate knowledge of demonstration of the equipment from the beginning of the programme;
- c. Poor state of the equipment due to poor maintenance; etc.

These therefore hinder effective teaching-learning and acquisition of skills. The lack of enough supply of these needed practical equipment serves as a deterrent to an effective learning. It has been observed that most students' misbehaviours at campuses like demonstration, riot, secret societies etc were responsible for academic breakdown. In a situation where the students are virtually idle during practical periods, there is every tendency for these students to conspire or gang up for unwholesome actions that will destabilize the conducive atmosphere of learning.

This lack of equipment could give rise to the turn out of production of graduate who are not prepared to perform creditably at work. Eze (1992) referred it as when half-witted graduate are consequently tuned out the labour force will be filled with a bunch of dishonest workers who are usually found wanting when they are required to apply the knowledge they are supposed to have acquired.

It is therefore glaring that the effect of high cost of technical equipment for training not only affect teaching and learning but also retards the national economic development due to low productivity of work.

The index of self-reliance

Self-reliance could be defined as self dependent. This dependability rests on the onus of ones ability uses the knowledge and skill acquired during

learning. An individual cannot be self-reliant without sound knowledge and skill manipulation and maintenance of equipment effectively. The cost of equipment might mar graduates who tend to be self reliant in their profession.

Schools which are sparingly financed by government, foreign bodies and some philanthropist individuals could not afford the necessary vocational equipment because of high cost. It will therefore be very remote for a private individual to be self-reliant. The aim of the National Policy on Education (NPE) for self-employment is then in limbo.

Conclusion/Recommendations

Most technical/vocational institutions have no choice than to teach the required skills verbally. This situation does not agar well far a developing nation such as Nigeria. It is in view of this that the following recommendations are drawn to put government in the right footing.

1. Government should as a matter of urgency provides means to procure the necessary equipment in the work shops
2. Government should make available funds for the smooth running of the workshops.
3. Sympathy should be place on skill acquisition during training of the students.
4. Government should ensure that the tools provided are a replica of those found in the industries

References

- Adewumi, A (1992), *Conducive classroom environment in science technology and mathematics (STM) education: infrastructure facilities for effective teaching and learning*. Paper presentation at the science teachers association of Nigeria (STAN) at Enugu , 27th August, 1992.
- Castaldi, B. (1997). *Educational facilities: Planning remodeling and management*. Boston: Allyn and Bacon.
- Eze, T. I. (1992). *Discipline and hardwork: The essential Ingredient For Qualitative Technical Teacher Education: An Address Presented at the College third Matriculation ceremony, Federal College Of Education (Technical) Umanze; March 27th 1992.*

- Fafunwa, A.B. (1996), *New perspective in African Education*. London: Macmillan Education Ltd.
- Ibe, C. N. (1994). *Position of work shops in vocational / technical education institution* in E. U. Anyakoha and E. C. Osuala , vocational / technical education and technological growth. Nsukka: NVA publication.
- McCarthy, W. J. et al (1984). *Machine tool technology*. Iininois; mark night publishing company.
- Mbata, A. (1990). Towards a more effective manpower training and development in the field of technical education in Nigeria. *A journal of technical education review* No 2., Vol. 2
- Olaitan, S.O. (1986). *Vocational education and national manpower development: constraints and strategies*. In Ojo, F. et al *Manpower development and utilization in Nigeria; problems and policies*. Lagos: Lagos University Press.
- Oromu, R.N. et al (1992) "Sources of funding vocational technical education for a self reliant nation". A paper presented at the Nigerian vocational association, Umunze.
- Obi, C.C. (1993). *Workshops organization and management in vocational/ technical education programmes*.
- Okerie, J.U. (2001). Vocational industrial education, Bauchi. *League of researchers in Nigeria*.
- Ogbado, C.M. (1995). *Managing educational facilities in schools*. In perutomode, V.R.(ed). *Introduction to educational administration planning and supervision*. Lagos: Joja educational research and publication Ltd.
- Olu, A (1991), "Technical And Vocational Teacher Training As A Strategy For Technical Development" *The Nigerian Teacher* Vol. No. 1
- Okafor, F.C. (1987). *Nigeria Teacher Education: A Search For A New Direction*. Enugu: Fourth Dimension Publiishing Company.
- Puyate S.T. (2002). Survey of vocational education facilities in government technical colleges in Rivers State. *The Journal of Nigerian Association Of Teachers Of Technology* (NATT). 4(1), 175- 176.
- Uwadiae, S.A. (1992). *Rationale for re – thinking the agricultural sciences curriculum for secondary schools*. In Nworgu; B.G. Nigeria ; A.P.Q.E.N. Publication.