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## **TVE Instructional Facilities as a Means of National Development towards the Realization of Vision 2020**

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### **Abstract**

Instructional facilities constitute an indispensable factor in teaching skills to learners in Technical and Vocational Education. The paper discusses instructional facilities in a school system, maintenance, utilization, problems and challenges, management and choice of instructional facilities in Technical and Vocational Education (TVE). It also presented recommendations among which are: the respect for maintenance culture for instructional facilities by teachers and students, equipping libraries by government immediately the need arises, firm control of tools e.t.c.

### **Introduction**

Technical and Vocational Education (TVE) refers to these aspects of the educational process involving, in addition to general education, the acquisition of practical skills, attitudes and understanding and knowledge relating to occupations in various sectors of economic and social life (UNESCO, 2007). Technical and Vocational Education can also be referred to as, all forms of education that are practically scientific, vocational and Technological in nature which are provided in either formal institutions or informal settings but involves the acquisition of knowledge, skills and appropriate attitudes for the benefits of the individual and the society in general. Technical and Vocational Education can also be seen as a means of preparing for occupation in the world of work which in turn facilitates poverty alleviation.

Technical and Vocational Education was practiced informally in our homes through pottery, different animal husbandry, hair dressing, knitting and local textile works, blacksmithing, carpentry, canoe making, sepulture works, masonry, arts and craft of various forms and materials, farming and gardening e.t.c. In the other way round, Technical and Vocational Education is now being taught and received formally in the formal school system through courses such as; agricultural science, fine arts, home economics, business education, auto-mechanics, building craft, electrical/electronics, metalwork, technical drawing, woodwork e.t.c. For the foregoing to be successful in any school system the aspect of instructional facilities must be allowed to "see the light of day" in the affairs of any government, be it federal, state or local government. Instructional facilities, therefore becomes central in Technical and Vocational Education just as technical and vocational education is central to national development in any country.

### **Instructional Facilities in a School System**

Instructional facilities in a school system refers to those goods and structures that help to promote teaching and learning process in an educational set up. These include equipment, workshops, laboratories, studios, libraries, classrooms e.t.c. which assist the education system to attain its stated goals and objectives. Ezeji (2004) defined school



facilities as the physical element of teaching, learning and operating environment which include all properties, media and materials.

Technical and Vocational Education cannot survive without workshop tools and equipment. These tools include simple hand operated machine to complex computerized machines capable of high precision (McCarthy, 1984). Viewing from another angle of incidence, Kalat (2007) see instructional facilities in workshops as the working instruments in different fields of skill acquisition which are designed to suit specific work or operation. Since technical and vocational education is the aspect of learning which equip the individual with practical skills, it therefore implies that workshop tools are the bedrock of its studies for the realization of vision 2020. Modern operations depend largely on machine tools technology, but the lack of these tools constitute a cankerworm that eat deep into the fabrics of technological advancement and hence national development. It is in this vein that Ibe (1994) stated that, experience has shown that most students come into contact with most of the workshop tools only during the supervised Industrial Work Experience Scheme (SIWES). The effect of this lack on both the student and the establishment that deployed them is discouraging and retrogressive.

#### **Maintenance of Instructional Facilities**

The continuous maintenance of equipment in excellent condition is imperative in the provision of any sound technical and vocational education programme. Such maintenance involves taking appropriate and specific measures to ensure that the (infrastructural facilities), equipment and machinery function well within the stipulated life span. This will lead to success in well organized demonstrations by teacher and student when the tools and machines are continuously in good condition because of proper maintenance. This will make the students quality very well in the usage of machines and hand tools without abusing them. Proper maintenance leads to improve productivity, prolonged life-span of facilities and improved financial returns. According to Shehu and Shehu (2007), steps for good maintenance include:

- Routine checks on instructional facilities
- Prompt repairs, and servicing of facilities
- Regular cleaning and lubrication of machine parts before and after use.
- Tenancies use of approved inventory control and storage system.
- Compliance to the operational guidelines of equipment and machinery.
- Good self-conduct while at work.

#### **Utilization of Instructional Facilities**

Utilization of instructional facilities is the degree or extent to which it is been put into effective use. Instructional facilities could be under or over utilized. The former occurs when the facility is not used maximally while in the case of the latter, the facility is given much pressure in use (i.e. beyond expectation). These last two cases are not desirable for instructional facilities. According to Olaitan, Nwachukwu, Igbo, Onyemachi and Ekong (1999), proper usage of instructional facilities serves various purposes in the teaching and learning process, these include:

- Demonstrating specific skills



- Carrying out manually operated functions
- Providing supportive functions to the functioning of used equipment and tools.
- Performing mechanically operated activities
- Aiding students skill development activities
- Promoting students memory development and recall.
- Aiding the construction and production purposes
- Evaluating success of skill acquisition

#### **Problems/Challenges in the Effective Use of Instructional Facilities**

Instructional facilities such as workshops laboratories, machines, libraries, audio – visual aids, classrooms, materials for practicals, hand-tools, have a number of problems militating against their effective use. Some of these problems include:-

(a) Financial Constraints: - Essential instructional facilities are lacking in technical institutions because there is no means for procurement.

(b) Rough Handling: - This could be seen in the misuse of classrooms, toilets, library books e.t.c.

(c) Mismanagement and Misdirecting of Funds: - Some school heads prefer to use student feeding money to pay contractors where “kick-back” will be realized.

(d) High Enrolment Rate: - The increase in the student intake these days has gone beyond the capacity of the instructional facilities in the schools. Yet no effort for more supply is made by any tier of government or section of the private sector.

(e) Supply or Production of Inferior Facilities: - Buildings are made without adequate reinforcement, non-functional tools are supplied, outdated or absolute tools are supplied all in the favour of selfish contractors, and their clients.

(f) Absence of Maintenance Culture: - Tools are left unattended to once they get damaged, buildings remain for years without renovation.

#### **Management of Instructional Facilities**

Efficient management of instructional facilities plays a tremendous role in enhancing the quality and efficiency in vocational/technical education. Fafunwa (1990), regrettably observed that a lot of equipment imported to accelerate technological education in this country had remain uninstalled, under utilized and un-catered for, also Mbata (1990) revealed that some laboratory equipment, workshops and classrooms are substandard not to talk of being properly maintained. Equipment, tools and materials that are imperative in technical and vocational education have methods of ensuring their management. These management styles include:

1. Complete Tool Inventory System (CTIS)
2. Student Participatory Management Style (SPMS)
3. Borrower Damage Repair System (BDRS)
4. Borrower Loss Replace System (BLRS)
5. Long-term Tool Loaning System (LTLS)

In a study conducted by Kalat (2006), he discovered that the predominant management style for instructional facilities in the workshops in most technical colleges



were, (a) complete tool inventory system (CTIS) and (b) Borrower Lost – Replace System (BLRS).

### **Choice of Instructional Facilities in TVE**

As simple as it may appear to be, traits of difficulty still linger in the decision process when instructional materials are being selected to match with the needs and capabilities of the learners. Bassey (1992) discovered that the selection of instructional materials in TVE is a function subsumed under general model of teacher planning whereby objective becomes the focus in the selection process.

The identification and selection of the most appropriate instructional materials are essential in the discharge of the formidable vocational technical task of transmitting psycho-skills to the learners. An intelligent selection demands the development of professional attitude towards the process for better judgement. For effective selection, Gana (1988), outline some basic criteria to follow such as:-

- (1) the materials should reflect sound scholarship and should retain vital original ideas;
- (2) the materials should cover the topics intensively and extensively as appropriate to the class to promote well developed concepts and adequacy of information;
- (3) the materials should be related to the objectives of the course content;
- (4) the selection should consider individual difference and built up sequentially in line with principles of simple to complex, and known to unknown.

Other criteria worthy of consideration are: the content of the lesson; the ability of the learners; the skills to be demonstrated; the supportive service to be performed; the teachers' manipulative skills; the learners' level of maturity; the situation to be used and the teachers' ability and maturity to handle specific instructional facilities and materials.

### **Recommendations**

In the light of the above discussions and conclusion the following recommendations are made:-

1. Government should provide tools, machines and materials immediately.
2. Teachers should be involved in the purchase of the tools, machines and materials for adherence to specifications and quality.
3. Maintenance culture should be part of both teachers and students.
4. There should be a firm control of tools.
5. The management style use for the tools and machines should be followed strictly
6. Libraries should be well equipped and managed.

### **Conclusion**

Workshop tools and equipment form the bedrock of vocational and technical education in any country. This is because modern industrial operations depend largely on machine-tool technology. Noticeable is the lack of these tools in most of our technical colleges. This ugly situation has been an attendant problem which tends to inject traits of set backs to viability and effectiveness of vocational and technical education as a means of national development. The few that are available are sub-standard, outdated, or

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overstretched due to population explosion in enrolment. Technical and vocational education requires total overhaul to save it from collapse.

### References

- Fafunwa, A.B. (1990). History and Philosophy of Nigerian Education. London: Macmillan Education Ltd.
- Gana, F.Z. (1988). Effective Educational Media in Nigeria. *Journal of Audio-Visual Association*. (Meiden Issue).
- Ibe Bassey, G. (1992). The Selection and Use of Instructional Materials: Implication for Teacher Effectiveness. Uyo: Department of Educational Technology, University of Uyo.
- Kalat, I.K. (2006). Effective Management of Non-Human Resources in Technical Colleges in Kaduna State. *Journal of Educational Management and Planning*. Vol. I No.1 April, 2006.
- Kalat, I.K. (2007). Technical and Vocational Education Facilities: A Case of Concern in the Education Reform Agenda. A paper presented at the 20<sup>th</sup> National Conference of NATT.
- McCarthy, W.J. (1984). Machine tool technology. Illinois: Mark night publishing company.
- Mbata, A. (1990)/ "Towards a more Effective Manpower Training and Development in the Field of Technical Education. *Journal of Technical Education Review*. No. 2. Vol. 2.
- Olaitan, S.O.; Nwachukwu, C.E; Igbo, C.A.; Onyemachi, G.A. and Ekong, A.O. (1999). Curriculum Development and Management in Vocational Technical Education. Onitsha: Cape publishers international Ltd.
- Shehu, Y.P. and Shehu, I.Y. (2007). Provision, Utilization and Maintenance of Vocational and Technical Education Facilities: A Challenge to the Nigerian Education Reform Agenda: A paper presented at the 20<sup>th</sup> NATT Conference in Kaduna.
- UNESCO (2007). Revised Recommendations Concerning Technical and Vocational Education. Retrieved from [www.unesco.org/education](http://www.unesco.org/education).