



## **Assessment of Management Practices in Workshops of Tertiary Institutions for Effective TVET in Nigeria. A view on Plateau State Polytechnic, Barkin Ladi**

**Peter Shut Gyang<sup>1</sup>, Tongshuwal John Musa<sup>2</sup> & Peter Benedict Gbiang**

**<sup>1</sup>[shutpeter@yahoo.com](mailto:shutpeter@yahoo.com) & <sup>2</sup>[tongshuwal@gmail.com](mailto:tongshuwal@gmail.com)**

<sup>1,3</sup>Department of Building and Woodwork Technology, & <sup>2</sup>Department of Electrical and Electronics Technology  
Plateau State Polytechnic, Barkin Ladi.

### **Abstract**

This study assessed the workshop facilities management practices in Plateau State Polytechnic. Three research questions were made to guide the conduct of the study. A descriptive survey research design was used for the study. Fifty-three (53) respondents comprising twelve (12) Administrators, thirty-four (34) Lecturers/Instructors and seven (7) Technicians were used as population for the study. A structured questionnaire formulated by the researcher was used for the collection of data. The instrument was validated by two lecturers in the School of Technical Education, Plateau State Polytechnic for reliability and was analyzed using an excel spreadsheet and Statistical Package for Social Science (SPSS). The study found that factors such as lack of involvement of external maintenance personnel in facility maintenance, lack of planned policy and poor funding hinder the proper facility management in the polytechnic. Based on the findings it was recommended that Teachers of technology should be made to embark on retraining to update their skills on equipment usage on the periodic basis, preventive maintenance should be observed regularly in the workshop. Finally, proper funding through the internal generated revenue IGR and collaboration like community-based organisation CBO/ tertiary education trust fund TETFUND should partner with polytechnics through equipping their workshops.

**Keywords:** Workshop Facilities, Assessment, Management Practices, Technical education

### **Introduction**

Tertiary education is focused on developing graduate competency, knowledge and talents for the nation's economic growth and global competition through provision of accessible, relevant quality education (Offem, O. O. & Unamba, C. P., 2025). UNESCO (2002) emphasize on tertiary education as learning aspects in a specialize field which includes academic and higher vocational education.

PTM Morope, et, al (2015) asserted that Technical and Vocational Education is geared towards acquisition of knowledge and skills for the world of work to increase opportunity for productive empowerment and socio-economic development in knowledge, economic and speedy changing work environment. TVE enables and equip people with technical and vocational skills, it also provides broad range of



knowledge, skills and attitudes that are recognize as essential for meaningful participation both in work and life.

Technical Vocational Education TVE is considered as that aspect of education whose function is related with the preparation of skilled manpower, TVE is a form of education training or retraining which is towards developing the learner to be become productive in a paid employment or self-employment (SO. Osuyi, 2022). The main trust of TVE is to develop skills in the learners. The acquisition of relevant skills of construction, designing and repair can only be acquired in a well equip and functional workshop with relevant equipment and facilities provided to produce quality skills workers for sustainable economic growth of a nation.

Similarly, learning new skills is not just about certificates or formal qualifications. It could also be through recognizing non-formal and informal learning's tremendous potential; a person may learn new skills in cost-effective and innovative ways by involving professional engagement to become more self-sufficient. A possible solution is for us to expose our learners to holistic models and skill frameworks in order to support them in making their own skill development decisions. This will encourage learners to take control of their own development of skills and ensure that, through professional involvement, they become more self-sufficient. Hence, once the learners become more aware of their skills, they will begin to decide whether more formal, non-formal or informal learning will bring about their desired future results

### **Concept of Tertiary Education in Nigeria**

Tertiary education is the education given after post-secondary education such as universities, colleges of education, polytechnics, monotechnic, colleges of Agriculture, school of health and technology, and the National Teachers Institutes (NTI). (NPE 2014), However, outline some goals of these institutions as:

- i      Contribute to national development through high level manpower training;
- ii     Provide accessible and affordable quality learning opportunities in formal and informal education in response to the needs and interests of all Nigerians;
- iii    Provide high quality career counseling and lifelong learning programmes that prepare students with the knowledge and skills for self-reliance and the world of work;
- iv     Reduce skill shortages through the production of skilled manpower relevant to the needs of the labour market;



### **Workshop Management**

Workshop management is the identification and judicious utilization of available resources to achieve the objectives of helping the learners to learn and to encourage them to want to learn (Shobowale, I., 2020). However, workshop management has to do the process of bringing out the best from the workshop personnel so as to achieve the set goals and objectives of practical lectures. Effective workshop management in teaching learning situation refers to the ability to maintain harmony and order in the workshop (Lafafa and polongana, 2022). They further explain that it shows how teacher can prevent misbehaviour by carefully organising the tools, machines, consumable items, establishing clear rules and regulations that are needed for effective acquisition of practical skills in the workshop. Considering the importance of workshop facilities in the polytechnic with a view to ascertain whether the workshop management practices adopted in the planning, storing and maintenance of workshop facilities affect the student's performance in plateau state polytechnic.

Garcia Jordi, et,al (2022), pointed out that tertiary institutions are mainly established with the aim to educate the youth to become active and productive members of society, it seeks to meet and match industry demand with a competent and globally competitive workforce, and also exhibits a continuing effort to reach global education standards. Thus, tertiary institutions seek to increase the quality of human capital and productivity vis-à-vis national and economic progress.

Unfortunately, tertiary institution appears not fulfilling these objectives as noted by Enemali (2022), lamented that tertiary institutions are haphazardly managed, they lack the ability to equip students with the requisite skills, knowledge and attitude needed for gainful employment. Also commenting on the performance of tertiary education in the area of skill development and workshop facilities, Gana (1989) emphasised that some of the available facilities have been grounded over stretched. It is probable that workshop facilities management practices adopted by the teachers may be responsible for these. Therefore, the aim of this study is to assess the current management practices of workshops in technical education programmes of plateau state polytechnic.



### Purpose of the Study

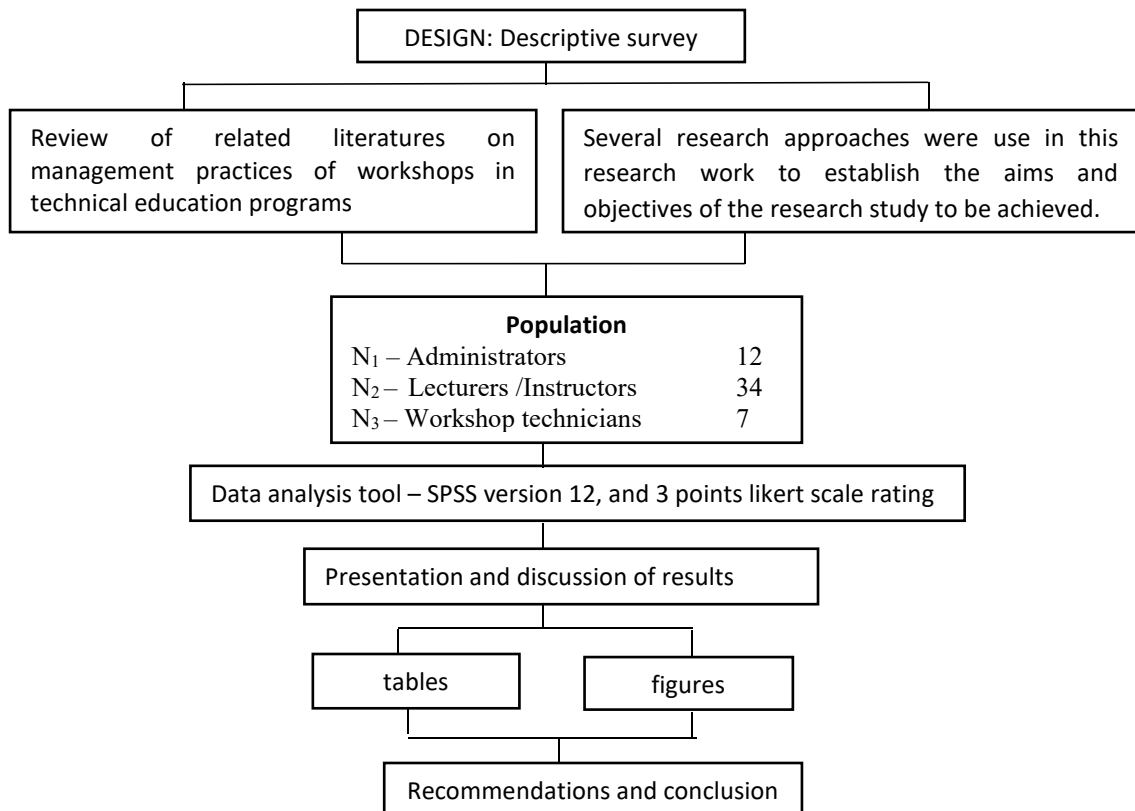
The purpose of this study is to assess the management practices to be adopted in determining the extent to which workshop facilities can be well managed and provide appropriate storage/maintenance system for workshop facilities. The research work conducted will provide and equip instructors and store officers with a prior knowledge and methods specifically for training manpower needs in various levels of tertiary education. Hence, the outcome will also provide decision to organisation to equipped the workshops with needed resources and facilities for achieving the goal of tertiary education in Nigeria.

### Research Questions

The research questions formulated for this study are:

1. How adequate are the facilities in the polytechnic workshops?
2. What are the management practices adopted in the maintenance of facilities in the polytechnic workshops?
3. What are the strategies for providing training facilities in the polytechnic workshop?

### Methodology



*Figure 1. outline of research methodology*



### Presentation and discussion of results

Mean Total ( $M_T$ ) =  $(3 \times 1) + (2 \times 1) + (1 \times 1)$

$\frac{6}{3} = 2.0 \therefore (2.0 \geq \text{Significant and } 2.0 \leq \text{Insignificant})$

#### 1 How adequate are the facilities in the polytechnic workshops?

**Table 1:** Kindly rate the following questions using Highly adequate (HA), Adequate (A), and Inadequate (IA)

SN	STATEMENT	$X_3$	$X_2$	$X_1$	$X_T$	Decision
1	Sizeable workshop space	-	74	16	1.70	Inadequate
2	Office space located for staff in the workshop	-	40	33	1.38	Inadequate
3	Space for planning and drawing	-	54	26	1.51	Inadequate
4	Library facilities	6	24	39	1.30	Inadequate
5	First aid facilities	21	20	36	1.45	Inadequate
6	Provision of fire extinguishers	9	36	32	1.45	Inadequate
7	Standard workshop benches	-	66	20	1.62	Inadequate
8	Provision of hand tools	12	74	12	1.85	Inadequate
9	Provision of portable tools	6	56	23	1.60	Inadequate
10	Provision of machinery	3	50	27	1.67	Inadequate
11	Provision of power supply	15	66	15	1.81	Inadequate
12	Provision of training materials	-	26	30	1.06	Inadequate
13	Provision of safety gadgets	3	32	36	1.34	Inadequate
14	Provision of a ventilation system	9	56	22	1.64	Inadequate
15	Standard entrance doors	12	56	21	1.68	Inadequate
16	Provision and accessible bulletin board	6	56	23	1.60	Inadequate

$N_1$ ,  $N_2$  and  $N_3$  = No of administrators, Lecturers/instructors and technicians.  $X_3$  = means response of administrators,  $X_2$  = mean response of Lecturers/instructors,  $X_1$  = mean response of technicians,  $X_T$  = mean response of all respondents, Decision (A = Adequate, IA = Inadequate).

Analysis in **table 1.** above revealed that the respondents jointly disagree with all the items on how adequate are facilities provided in the polytechnic as being adequate. However, more emphasis was hampered on items such as provision of tools, power supply and sizeable work space rated the highest. Therefore, the polytechnic management should lay more concern on the provision of tools and building of standard workshops containing enough spaces with constant power supply, this in essence will improve technical education in the institution.



## 2 What are the management practices adopted in the maintenance of facilities in the polytechnic workshops?

**Table 2:** Kindly rate the following questions using Highly Accepted (HA), Accepted (A), and Unaccepted (UA)

SN	STATEMENT	$X_3$	$X_2$	$X_1$	$X_T$	Decision
1	Refurbish broken tools and equipment	57	44	12	2.13	Accepted
2	Clean tools and equipment after use	42	70	4	2.19	Accepted
3	Regular maintenance practices of tools and equipment	66	44	9	2.25	Accepted
4	Recondition any damage tools to its proper working condition	75	46	5	2.38	Accepted
5	Tools or equipment lost, damage or misplaced attracts charges	63	50	7	2.26	Accepted
6	Instructors observed appropriate principles for equipment maintenance	9	76	12	1.83	Unaccepted
7	There is a plan maintenance policy in the workshop	6	38	32	1.43	Unaccepted
8	Oiling of machines is done regularly	12	54	22	1.66	Unaccepted
9	Lubricants such as oil/grease is available in the workshop	3	58	23	1.58	Unaccepted
10	Operating manuals are available	-	48	29	1.45	Unaccepted
11	Regular servicing of workshop facilities	3	38	33	1.40	Unaccepted
12	Provision of funds for maintenance purposes	9	28	36	1.38	Unaccepted
13	External maintenance personnel are involved in facility maintenance and repairs	6	22	40	1.28	Unaccepted

$N_1$ ,  $N_2$  and  $N_3$  = No of administrators, Lecturers/instructors and technicians.  $X_3$  = means response of administrators,  $X_2$  = mean response of Lecturers/instructors,  $X_1$  = mean response of technicians,  $X_T$  = mean response of all respondents, Decision (A = Accepted, UA = Unaccepted).

Analysis in **table 2**. Revealed the views of the respondents on management practices adopted in the maintenance of facilities in the institution as well accepted on items such as Refurbish broken tools and equipment, Clean tools and equipment after use, Regular maintenance practices of tools and equipment, recondition any damage tools to its proper working condition and Tools or equipment lost, damage or misplaced attracts charges. While items such as Instructors observed appropriate principles for



equipment maintenance, There is a plan maintenance policy in the workshop, Oiling of machines is done regularly, Lubricants such as oil/grease is available in the workshop, Operating manuals are available, Regular servicing of workshop facilities, Provision of funds for maintenance purposes and External maintenance personnel are involved in facility maintenance and repairs where unaccepted, therefore the polytechnic management must ensure provision of funds in order to carryout effective routine checks and maintenance of facilities in workshops to enhance proper training.

### 3 What are the strategies for providing training facilities in the polytechnic workshop?

**Table 3:** Kindly rate the following questions using Strongly Agree (SA.), Agree (A.), and Disagree (DA.)

SN	STATEMENT	X <sub>3</sub>	X <sub>2</sub>	X <sub>1</sub>	X <sub>T</sub>	Decision
1	Collaboration between schools and the private sector in the provision of facilities	84	36	7	2.40	Agree
2	Collaboration between schools and industries in the provision of facilities	105	26	5	2.57	Agree
3	Support from NGOs	93	40	2	2.55	Agree
4	Support from Community-Based Organisation (CBOs) and other stakeholders	96	34	4	2.64	Agree
5	Tertiary education trust fund (TETFUND) intervention for procurement of workshop facilities	117	28	-	2.74	Agree
6	Administrators appeal in writing to concern authorities for assistance in the provision of workshop facilities	84	26	2	2.13	Agree
7	Administrators/instructors encourage projects that yield income for the institution	81	26	3	2.08	Agree
8	Training tools and equipment are replica of the industries	54	70	-	2.34	Agree
9	Assessment model for evaluation of training progress is in line with global practices	60	62	2	2.30	Agree

$N_1, N_2$  and  $N_3$  = No of administrators, Lecturers/instructors and technicians.  $X_3$  = means response of administrators,  $X_2$  = mean response of Lecturers/instructors,  $X_1$  = mean response of technicians,  $X_T$  = mean response of all respondents, Decision (A = Agreed, DA = Disagreed).





Analysis in **table 3.** above revealed that respondents jointly agreed with all the items formulated on strategies for providing training facilities in the institution. It therefore, means good collaboration between schools and private sectors /industries should maintain a relationship that will improve TVET in the tertiary institutions of learning generally. Also support from NGOs, community-based organization/tertiary education trust fund (TETFUND), and other stakeholders should lay more emphases in the spirit of Partnership in providing more support to tertiary education in the country. On the other hand, administrators should put more effort in sensitizing and making appeals through different means of communication to authorities with the zeal to support in financing TVET education at the tertiary levels. In the same way provision of training materials, tools/equipment be made more adequate to enhance the production of functional projects that will even yield more income to the institution.

### **Conclusion**

Having examined place of equipment and facilities in realizing an efficient and effective TVET program, it is observed among other things that TVET can function effectively if the training stations are equipped adequately with facilities that should guarantee sustainable skills and hence sustainable livelihood to the practitioners. Hence, one of the underlying principles of TVET requires that the students be trained with the machines, tools, equipment, process and in fact in the replica of the work milieu of eventual employment, but we still train our potential teachers of technology and practitioners of technology without the necessary tools and equipment. All hope is not lost, with the implementations of the recommendations as above, Nigeria TVET will excel and the participants assured of sustainable livelihood and TVET education will be strengthened for further exploits.

### **Recommendation**

Based on the findings, the following recommendations were made:

1. Teachers of technology should be made to embark on retraining to update their skills on equipment usage on the periodic basis.
2. Technical teachers should be allowed to participate in the planning of the workshop facilities.
3. Collaboration between schools and industries in the provision of facilities





4. Assessment model for evaluation of training progress is in line with global practices
5. Workshop facilities should be stored according to their characteristics.
6. Preventive maintenance should be observed regularly.
7. Adequate security should be provided for the workshop facilities.
8. Funding is necessary in TVET area.

### **References**

- Enemali, J.D. (2022). Strategies for effective management of technical colleges in Northern States of Nigeria. Unpublished PhD Dissertation. Department of Vocational Teacher Education, University of Nigeria, Nsukka.
- FGN (2014) National policy on Education 4th edition. Lagos NERDC press.
- Gana, F.Z. (1989) National seminar on teaching and vocational training sub-section of Nigerian Education system. Organized by NBTE, Kaduna, Nigeria.
- Garcia Jordi, Alvado Anna, Sorribes Joan, Boyra Josep (2022) The Challenges of Higher Education and its Contribution to Sustainable Development.
- Lofafa, K.W. and Polongana, M. (2022). Introduction to School management and accounting. Maseru, Lesotho, press ltd.
- Offem, O. O. & Unamba, C. P. (2025). Planning Tertiary Education Management Effectiveness for Empowerment and Job Creation Through Emerging Technologies Innovation for Sustainable Development.
- PTM Morope, B.Chakroun and K.P. Holmes (2015). Unleashing the Potentials Transforming Technical and Vocational Education and Training. UNESCO Publishing.
- Shobowale, I. et,al (2020). Assessment of Wood Workshop Facilities Management Practices for Effective Teaching and Learning in Technical Colleges of Lagos State, Nigeria.
- Osuyi, S.O. (2022) An Assessment of Management of Technical Colleges Workshop in North Central States of Nigeria. Unpublished M.Tech thesis. Federal University of Technology, Minna.
- UNESCO. (2002). Technical and vocational education and training for the twenty first century: UNESCO and ILO Recommendations. Retrieved July 20, 2012, from <http://www.google.com.ng>
- United Nation Educational Scientific and Cultural Organisation (2002) Evaluation and assessment. Unpublished manuscript UNESCO/Nigeria Project in support of Revitalisation of Technical and Vocational education.