

Assessment of Workshop Facilities Management Practices in Technical Colleges of Niger State

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Abstract- This study was designed to assess the workshop facilities management practices in Technical Colleges of Niger State. Four research questions were formulated to guide the conduct of the study. A descriptive survey research design was employed for the study. The study was carried out in all the Technical Colleges in Niger State. A total of 488 respondents comprising 443 technical teachers and 45 administrators were used as population for the study. A structured questionnaire developed by the researcher was used for the data collected for study. The instrument was face and content validated by three lecturers. Mean and standard deviation were the statistical instruments used to analyze the data for answering research questions, The findings of the study revealed among others that technical teachers were not allowed to participate in the planning of the workshop facilities, workshop facilities were not stored according to their characteristics and preventive maintenance are not regularly observed. Based on the findings it was recommended that technical teachers should be involved in the planning of workshop facilities, workshop facilities should be stored according to their characteristics and preventive maintenance should be observed regularly in the workshop.

Index Terms- Assessment, Workshop Facilities, Management Practices and Motor Vehicle Mechanics

I. INTRODUCTION

Technical colleges are regarded as the principal vocational institutions in Nigeria. They give full vocational training intended to prepare students for entry into the various occupations (Okoro, 1993). According to Abdulkadir (2011) the responsibilities of technical college education in Nigeria include: provision of full time or part-time courses of instruction and training in technology, applied science and commerce, in such other field of applied learning, relevant to the needs of the development of Nigeria in the areas of industrial, commercial and vocational agriculture, professional studies in engineering and other technologies and perform such other functions as in the opinion of the society as may serve to promote the objectives of the technical colleges.

National Policy on Education (2004) made the production of craftsmen, artisans and other sub-professional skilled personnel the responsibility of technical college education and maintained that trainees completing technical college programmes shall have three options: Secured employment either at the end of the whole course or after completing one or more modules of employable skill, Set up their own business and become self-employed and be able to employ others and Pursue further education in advance

– craft/technical programme and in post-secondary (tertiary) technical institutions such as science and technical colleges, polytechnics or colleges of education (technical) and universities. However, the attainment of these goals is largely dependent on the effective workshop facilities management practices.

Workshop facilities management practices refer to various strategies or techniques of managing a workshop.

The major concern of good workshop management is the identification and judicious utilization of available resources to achieve the objective of helping the learners to learn and to encourage them to want to learn (Ogwo & Oranu, 2006). In essence, workshop management has to do with the process of bringing out the best from the workshop personnel so as to achieve the set goals and objectives of practical lesson. Effective workshop management in teaching-learning situation refers to the ability to maintain harmony and order in the workshop (Lofafa & Polongana, 2001). They further explained that it shows how teacher can prevent misbehaviour by carefully organizing the tools, machines, engines, consumable items, establishing clear rules and regulation that are needed for effective acquisition of practical skills in the workshop. Considering the importance of workshop facilities in the provision of effective instruction there is need to assess the management of the available workshop facilities in technical colleges with a view to ascertain whether the workshop management practices adopted in the planning, storing and maintenance of workshop facilities affect the students performances in the technical colleges of Niger State. Hence assessment according to UNESCO (2002) is the systematic process of generating data about traits, performances, projects, activities e.t.c. for the purpose of making evaluative judgments. Therefore, assessment in the context of this study is a systematic process of generating data about effective management of workshop facilities for the purpose of making evaluative judgments.

Technical colleges are mainly established for the training of students to acquired practical skills, knowledge and attitude. However, the major goals of technical college education is to produced efficient and relevant craftsmen and women that will promote and industrial development in the area of maintenance, goods production and general services (Abdulkadir, 2011). Boyi (2008) also opined that the goal of technical college education is develop saleable skills in youths in order to make them useful to themselves, society and also become labour assets in the industries.

Incidentally, these technical colleges appear not fulfilling these objectives as noted by Enemali (1994) who lamented technical colleges 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 technical colleges in the area of skill development and workshop facilities, Gana (1989) stressed that some of the available facilities have been grounded and overstretched. It is probable that workshop facilities management practices adopted by the teachers may be responsible for these. Therefore, the problem of this study is to assess the current workshop management practices in the technical colleges of Niger State.

II. PURPOSE OF THE STUDY

The purpose of this study is to assess workshop facilities management practices in technical colleges of Niger State, Specifically the study sought to determine:

1. Workshop management practices adopted in the planning of training facilities in technical colleges.
2. Workshop management practices adopted in the storage of available training facilities in technical colleges.
3. Workshop management practices adopted in the maintenance of training facilities in technical colleges.
4. The mechanisms adopted in the management of workshop facilities in technical colleges.

III. RESEARCH QUESTIONS

The following research questions were formulated to guide the study.

1. What are the workshop management practices adopted in the planning of training facilities in technical colleges?
2. What are the workshop management practices adopted in the storage of available training facilities in technical colleges?
3. What are the workshop management practices adopted in the maintenance of training facilities in technical colleges?

4. What are the mechanisms that should be adopted in the management of workshop facilities in technical colleges?
- 5.

IV. METHODOLOGY

A descriptive survey research was adopted for this study. A total of 488 respondents comprising 443 technical teachers and 45 administrators from all technical colleges in Niger State formed the population for this study and the entire population was studied, this is owing to the less number of the subjects involved in the study; hence there was no need for the adoption of any sampling technique. A structured questionnaire developed by the researchers, named Workshop Facilities Management Practices Assessment Questionnaire (WFMPAQ) validated by three experts from Industrial and Technology Education Department was used for data collected for the study. The questionnaire was assigned four points rating scale of strongly agree (4), agree (3), disagree (2) and strongly disagree (1). 438 copies of questionnaire were distributed to teachers and students by the researchers and the research assistants appointed each from each of the technical College in the State. Thus, 387 copies of the questionnaire dully filled by the respondents were returned to the researchers and the returned rate is 88.4%. Mean and Standard Deviation were the statistical tools used to analyzed the data for answering research questions; While t-test statistics was use to test the hypotheses at 0.05 level of significant. A mean score of 2.50 was used as a bench mark for accepting or rejecting items. Therefore, items with a mean score of 2.50 and above were considered agreed; while items with mean score of 2.49 and below were considered disagreed.

Results

Research Question 1

What are the workshop management practices adopted in the planning of training facilities in technical colleges?

Table 1

Mean responses of technical teachers and administrators on the workshop management practices adopted in the planning of training facilities in technical colleges.

$N_1 = 443$ $N_2 = 45$

S/No	Items	\bar{X}_1	\bar{X}_2	\bar{X}_t	Decision
1	Technical teachers participate in the planning of workshop facilities	3.56	2.66	3.11	Agree
2	Improper planning of training facilities leads to failure	4.57	4.71	4.64	Agree
3	Curriculum contents for the technical programmes determines the planning of available training facilities	2.70	2.55	2.63	Agree
4	Student enrolments are taken into consideration when planning the workshop facilities	3.88	3.79	3.84	Agree
5	Learning objectives influences the planning of workshop facilities	2.97	2.88	2.93	Agree
6	Attention is given to topic area when planning the training facilities	3.02	3.01	3.02	Agree

7	Planning of workshop facilities assist in achieving the objectives of the school annually	2.71	2.56	2.64	Agree
8	Provision of the spare parts are taken into consideration when planning the available equipment	2.88	2.79	2.84	Agree

N_1 and N_2 = No of Technical Teachers and Administrators \bar{X}_1 = Mean responses of Technical Teachers; \bar{X}_2 = Mean responses of Administrators \bar{X}_t = Mean responses of all respondents.

Analysis in Table 1 revealed that the respondents jointly agree with all the items as workshop management practices adopted in the planning of training facilities in technical colleges.

Research Question 2

What are the workshop management practices adopted in the storage of available training facilities in technical colleges?

Table 2

Mean responses of technical teachers and administrators on the storage of available training facilities in technical colleges?

$N_1 = 443$ $N_2 = 45$

S/No	Items	\bar{X}_1	\bar{X}_2	\bar{X}_t	Decision
1	Hand tools are kept in the tool room	2.31	2.05	2.18	Disagree
2	Hand tools are kept in the tool cabinet	2.10	2.45	2.28	Disagree
3	Effective tool inventory system is adopted	2.09	2.44	2.27	Disagree
4	Bench tools are properly stored	1.80	2.00	1.90	Disagree
5	Workshop facilities are stored according to their traits	1.70	2.45	2.08	Disagree
6	Tools are stored in rack and boxes	1.61	2.03	1.82	Disagree
7	Adequate storage space for the available facilities	1.34	2.43	1.89	Disagree
8	Proper record of facilities are kept properly	1.90	1.77	1.84	Disagree
9	Training facilities are kept under the care of technical teachers	2.40	2.06	2.23	Disagree
10	School administrators are actively involved on the storage of training facilities	2.34	2.11	2.23	Disagree
11	Training facilities are kept under the care of store keeper	2.09	2.11	2.10	Disagree
12	Training facilities are always audited regularly	1.80	2.00	1.90	Disagree

N_1 and N_2 = No of Technical Teachers and Administrators \bar{X}_1 = Mean responses of Technical Teachers; \bar{X}_2 = Mean responses of Administrators \bar{X}_t = Mean responses of all respondents.

Analysis in Table 2 revealed that the respondents jointly disagree with all the items as workshop management practices adopted for the storage of available training facilities in technical colleges.

Research Question 3

What are the workshop management practices adopted in the maintenance of training facilities in technical colleges?

Table 3

Mean responses of technical teachers and administrators in the maintenance training facilities in technical colleges

$N_1 = 443$ $N_2 = 45$

S/No	Items	\bar{X}_1	\bar{X}_2	\bar{X}_t	Decision
1	Tools and equipment are usually refurbished after they have completely broke down	2.50	1.00	1.75	Disagree
2	Damage tools and equipment are abandoned without				

	effort to made to repair them	2..07	2.00	2.04	Disagree
3	Students are usually encourage to clean their tools after use	3.45	3.09	3.27	Agree
4	Maintenance of tools is a regular practice in the workshop	3.88	2.95	3.42	Agree
5	Student are made to replace any damage tool	1.09	2.02	1.56	Disagree
6	Oiling of machines are done on regular basis	3.80	3.01	3.41	Agree
7	Lubricants such as oil and grease are usually available in the workshop	2.55	3.56	3.06	Agree
8	Technical teachers adopt appropriate principles for equipment maintenance	1.22	2.09	1.66	Disagree
9	There is planned maintenance policy in the workshop for equipment maintenance	2.01	1.77	1.89	Disagree
10	Operating manuals are available	2.05	1.75	1.90	Disagree
11	Preventive maintenance is observed regularly	2.03	2.11	2.07	Disagree
12	Training facilities are serviced regularly	1.32	2.07	2.07	Disagree
13	Adequate fund are provided for maintenance activities	2.06	1.65	1.86	Disagree
14	Outside maintenance personnel are involved in maintenance	2.23	1.08	1.66	Disagree

N_1 and N_2 - No of Technical Teachers and Administrators \bar{X}_1 = Mean responses of Technical Teachers; \bar{X}_2 = Mean responses of Administrators \bar{X}_t = Mean responses of all respondents.

Analysis in Table 3 revealed the views of the respondents on workshop management practices adopted in the maintenance of training facilities in technical colleges.

Research Question 4

What are the mechanisms that should be adopted in the management of workshop facilities in technical colleges?

Table 4

Mean responses of technical teachers and administrators on the mechanisms adopted in the management of workshop facilities in technical colleges

$N_1 = 443$ $N_2 = 45$

S/No	Items	\bar{X}_1	\bar{X}_2	\bar{X}_t	Decision
1	Disciplinary action should taken against any theft case	3.44	3.24	3.34	Agree
2	Security should be provided for training facilities	3.10	3.00	3.05	Agree
3	Technical teachers should be engaged in the in the management of training facilities	3.33	2.06	2.66	Agree
4	There should be regular training for workshop technical teachers	3.46	2.58	3.02	Agree
5	Conferences/seminars should be organize regularly for technical teachers	2.67	3.10	2.89	Agree
6	Adequate possible supervision should be given to oiling of machinery	2.50	3.65	3.08	Agree
7	Organizing tools on the shelves and tool boxes based on the function they perform	2.65	3.00	2.83	Agree
8	Workshop personnel with good character should employed	2.90	3.09	2.96	Agree
9	Proper layout of workshop to show clearly carriage ways and location of machine tools	3.34	3.21	3.23	Agree

N_1 and N_2 = No of Technical Teachers and Administrators
 \overline{X}_1 = Mean responses of Technical Teachers; \overline{X}_2 = Mean responses of Administrators
 \overline{X}_t = Mean responses of all respondents.

Analysis in Table 4 revealed that the respondents agree with all items as the mechanisms that should be adopted in the management of workshop facilities in technical colleges

V. FINDING AND DISCUSSION

The findings as contained in table 1 revealed that respondents disagree with all the items as workshop management practices adopted in the planning of training facilities in technical colleges. This in consonance with the views of Jojoh (2006) who explained that improper planning lead to failure in any organisation. He further stressed that improper planning of the workshop facilities results in wastages as well as poor management of human and resources. The researcher is of the opinion that planning of the workshop facilities should depends very much on what a workshop is design for and should further be determined by the type of tools, equipment and number of students required there at a time. Effective planning of workshop facilities determines the achievement of learning objectives (Aromolaran, 2000).

In Table 2 findings revealed that the respondents disagree with all the items as workshop management practices adopted for the storage of available training facilities in technical colleges. This is in-line with the findings of Ekah (1998) who asserted that most technical colleges lack storage room in the workshop where consumable items and working tools can be safely stored. Hakha (2008) in support of this finding also noted that racks and boxes for tools storage are not available in most technical colleges there by rendering the available tools in effective for practical purposes. The researcher is of the view that good housekeeping such as effective tool inventory system and involvement of technical teachers which will in turn lead to proper storage and management of materials and tools for easy reach of students are generally absent in most technical colleges.

Findings in Table 3 revealed the views of respondents on the items as workshop management practices adopted in the maintenance of training facilities in technical colleges. The findings revealed that lubricants such as oil and grease are usually available in the workshop this corroborate with the views of Dabban and Abbas (2000) who opined that periodic oiling of machines reduces the wear of moving parts and prolong the life span of the equipment. The findings further revealed that there is no planned maintenance policy in the workshop for equipment maintenance this is in line with the views of Doyin (2004) who opined that lack of planned maintenance policy affect the facilities in the workshop which according to him in turn affect the teaching and learning of technical courses. However, the researcher is of the view that there is need to provide well organize and complete maintenance instructions with periodic inspections that will assist in determining the type of maintenance to be adopted in the workshop.

Analysis in Table 4 revealed that the respondents agree with all items as the mechanisms that should be adopted in the management of workshop facilities in technical colleges. This in consonance with Umar (2008) who stressed on measures for maitaning discipline in the industry outlined some methods

which includes drawing a code of conduct, provision for better condition of service and more broad minded policy. However, Okorie (2000) emphasizing on the security of equipment in work endowment stressed that machines should be fixed on the floor in order to be firm and also serve as a security mechanism. Abdullahi (1994) also maintained that workshop and conferences should be organized for teachers and workshop personnel in order to update their skills in their respective discipline. Well the researcher as this point is of the opinion that these mechanisms is well implemented would improve the effective management of technical colleges workshop as well as the facilities which will in turn lead to improved skills acquisition in technical colleges.

VI. CONCLUSION

This study has identified some evident and thus formed the following conclusion: the objectives of vocational and technical education programme are not completely achieved as a results of improper planning of teaching facilities, lack of proper storage for available training facilities, lack of effective maintenance for training facilities as well as in effective mechanisms for proper management of workshop facilities in technical colleges. . Accordingly, if the findings of this study are effectively utilized a batch of highly and skilled technical colleges graduate will be produced.

VII. RECOMMENDATIONS

Based on the findings, the following recommendations were made:

1. Technical teachers should be allowed to participate in the planning of the workshop facilities.
2. Workshop facilities should be stored according to their characteristics.
3. Preventive maintenance should be observed regularly.
4. Adequate security should be provided for the workshop facilities.
5. Workshop personnel with good and training habit should be employed.

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