ASSESSING THE EFFECTIVENESS OF MANAGERS OF TECHNICAL COLLEGE WORKSHOPS: A CASE OF NORTH CENTRAL NIGERIA

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ABSTRACT

This study assesses the effectiveness of managers of technical college workshops from the perspective of stakeholders in North Central Nigeria. A descriptive survey design was employed. Three research questions and two hypotheses were formulated to guide the study. A 35-item questionnaire developed by the researchers and validated by three experts was used to collect data from 101 administrators, 140 teachers, and 24 workshop personnel randomly sampled and stratified along trades in technical colleges. Mean was employed to answer the research questions while one way analysis of variance (ANOVA) was employed to test the hypotheses using Statistical Package for Social Sciences (SPSS) for data analysis. Result revealed that respondent shared similar opinions on the management of technical college workshops. It was therefore recommended that: The managers of the workshops should use alternative approaches in the management of workshop instead of waiting for government to provide everything; maintenance of tools should be a regular practice in the workshops; administrators should recommend teachers and workshop personnel to attend seminars regularly in order to update their knowledge on current practices in the management of technical college workshops among others.

Keywords: *Management, Manager, Facilities, Workshop, Workshop personnel, Technical Teacher.*

1 INTRODUCTION

School workshops offer opportunities for practical training of students in skill acquisition in trade areas in Technical Colleges. Technical Colleges in Nigeria are regarded as the principal vocational institutions that give full vocational training intended to prepare students for entry into various occupations (Okoro, 1993). The major goal of Vocational institutions is to prepare students for successful employment in labor market (Finch & Crunkilton, 1999). The training at Technical College qualifies people for jobs in both public and private sectors of the economy (Ndomi, 2005). School 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. It entails the involvement of workshop staff in planning, directing and controlling training facilities for the purpose of learning in various occupations and in meeting with institutions work objectives (Obi, 1993).

In an ideal College workshop there is usually equipment for acquiring skill and to maintain; consumable materials to be purchased, distributed for practice and utilized; physical facilities to be arranged and given occupational direction (Olaitan, Nwachukwu, Onyemachi, Igbo & Ekong, 1999). This is important so that an acceptable work habits and procedures are successfully executed, but in reality it is different from what it supposed to be as studies have shown that the differences in the quality of work carried out in the college workshops could be attributed to poor management. Many existing workshops in Colleges are deficient in one way or the other, some schools have workshop, some have not, and those that have are in bad condition (Ibe, 1994). These workshops were originally designed and built for small population of students, however in recent times the student's population especially in urban schools has increased tremendously, thereby over stressing the available space and facilities (Asilokun, 2004).

At technical colleges, performance at the National Technical Certificate (NTC)/National Business Certificate (NBC) examination level in 2012 revealed very disturbing statistics, attributable to utter neglect, poor funding, inadequacy of resources, and poor management of facilities (Aina, 2000). Setting up school workshop and equipping with necessary tools and facilities is not enough, but managing such high investment must be devised in order to yield the expected results. The prevalence of these problems is the broken or missing tools, and damaged machine. Uzoagulu (1992) reported that a total of 211 equipments were rendered unusable in the various Technical departments of the institutions which his study covered. This can be attributed to poor management of school workshops due to inefficient personnel which hampers the effectiveness of practical teaching in most Technical colleges.

In order to achieve the laudable goals of technical and vocational education (FRN, 2004) particularly on the necessary skills and to produce personnel with independent, creative, imaginative and constructive ideas that are capable of breaking new grounds, Technical college workshops must be equipped with relevant facilities and should be managed effectively by the appropriate personnel. Improper management and lack of equipment and workshops in schools hinders the teaching and learning of school subjects, these according to Fagbemi (1992) constitute hindrances to achieving the goals of the National Policy on Education. Gardner (1989) noted that leaders must often allocate

resources, deal with budgets and organize the enterprise in order to enable people to do the work necessary to move the organization towards its vision.

The question that needs to be addressed with regard to Technical workshops is whether the workshops are fulfilling the purpose for which they were established judging from the fact that there seems to be mismatch between Technical students graduates and the world of work, students are therefore unemployable in the industries needing their services. Puyate (2002) maintained that the present state of vocational education facilities is very poor, there is no planned means of maintenance of the already broken down equipment or means of purchasing new ones, there is little or no concern on the part of government, teachers and students for the improvement of the present state of facilities. This is likely to increase number of unemployed, constituting social miscreants in our cities. Since effective workshop management according to Olaitan *et al* (1999) is a function designed to help in organizing, renovating and expanding the learning facilities in the workshop, it is pertinent that there is need for conducive environment where relevant and sufficient equipment, tools and consumable materials are available for practice in the various areas of specializations in the Technical colleges.

The researchers therefore took up the task of assessing the effectiveness of managers of Technical College workshops in North Central Nigeria to determine management practices by the stakeholders. The main intention was to provide feedback to government and policy makers at both federal and state levels to assist in providing effective approach towards managing Technical College workshops. The findings of the study may be helpful for the improvement of training programs for workshop personnel who are in constant touch with day to day activities in the College workshops.

Based on this objective, three research questions were designed to guide the study.

1. How are the Technical College workshops currently managed?
2. What are the managerial abilities of Administrators of Technical College workshops?
3. What are the approaches toward effective management of Technical College workshops?

Based on above-mention, three null hypotheses were designed. These are:

Ho_1: There is no significant difference on the perception of Administrators Teachers and workshop personnel with respect to how Technical College workshops are currently managed.

Ho_2: There is no significant difference on the perception of Administrators, Teachers and workshop personnel with respect to the approaches toward effective management of Technical College Workshops.

2 METHODOLOGY

A descriptive survey research design was adopted in this study. The study covered all Government Technical Colleges located in the three states of Benue, Kwara, Niger and Federal capital territory-Abuja, all of which are in North Central Nigeria. Stratified random sampling technique was used in order to involve a variety of proportional participants in the management of Technical College workshops. Stratified random sampling divide population into strata, and then randomly select samples from each stratum (Neill, 2006). There were three strata in the sample with 101-Administrators (Principal, Vice Principal & Heads of department), 140-Teachers (those teaching skill related subjects), and 24-Workshop personnel (workshop Assistants & Attendants) represented. Therefore, the sample for the study comprised of 265-respondents from the clusters of engineering and construction trade programs in 19 Technical Colleges (National Board for Technical Education [NBTE, 2010]) in the area of the study.

The researchers designed a questionnaire comprising of two parts: Information on the respondents and structured opinions at 4-point rating scale. The former contained school name, department, and position or designation while the later contained 35-items on the three research questions. Each item was to be to be rated on a four point rating scale: Strongly agree (4); Agree (3); Disagree (2); and Strongly Disagree (1). The instrument was subjected to face validation by three experts, comprising of a Technical College principal and two lecturers in different areas of specialization from the department of Industrial and Technology Education, Federal University of Technology, Minna, Nigeria. Their suggestions were used to refine the questionnaire to its present form. A pilot testing of the instrument was carried out with forty respondents selected from the three strata in two states not involved in the study. A Cronbach's alpha was used to measure the reliability of the instrument. The reliability co-efficient value of 0.80 allows the researchers to launch the study on a large scale (Gay, 2002). The instrument was administered to the respondents by the researchers and the research assistants. Data collected was analyzed using the Statistical Package for Social Sciences (SPSS), mean for answering the research questions and one way analysis of variance (ANOVA) for testing hypotheses. The criterion mean value of 2.50 was used based on the four point rating scale; therefore items with 2.50 and above were considered agreed while items with mean values of 2.49 and below were considered disagreed. The hypotheses were accepted for f-ratio (calculated) less than f-ratio (table value), otherwise, it was rejected.

3 RESULT

The results of the data analysis are presented in the order of the research questions and hypotheses for the study.

3.1 Research Question One

How are the Technical College workshops currently managed?

The responses of Administrators, Teachers, and workshop personnel were analyzed using mean (Table 1). The data analysis revealed that 8 of the suggested 12 current ways of managing Technical College workshops met the criterion mean score of 2.50.

Table1: Respondents' Mean scores on how Technical College Workshops are currently managed

		$n_1 = 101$	$n_2 = 140$	$n_3 = 24$	
S/No	ITEM	M_1	M_2	M_3	M_t
1	The managers of the workshop usually wait for government to provide everything.	2.38	2.69	2.79	2.62
2	Obsolete equipment and spare parts are updated	2.48	2.21	2.29	2.33
3	Ledgers are provided for signing of tools from the stores in the workshop	3.04	2.94	3.08	3.02
4	Students are made to replace any tool damaged in the course of practice	2.55	2.71	2.58	2.61
5	Consumable materials are provided as at when needed	2.45	2.40	2.63	2.49
6	Maintenance of tools is a regular practice in the workshop	2.36	2.40	2.30	2.35
7	First aid boxes are provided in the workshops	2.29	2.12	2.38	2.26
8	Tools of similar functions are always arranged on specific racks for easy access	2.90	2.94	3.00	2.95
9	Students are usually encouraged to clean their tools after use	3.42	3.28	3.38	3.36
10	Efficient allocation and utilization of spaces are planned.	3.00	2.84	2.83	2.89
11	Expenditures are planned such that they can be monitored.	2.88	2.77	2.92	2.86
12	Meetings are held continuously between heads of departments and workshop personnel to monitor activities in the workshops.	3.07	2.97	3.33	3.12

Key: n_1, n_2 & n_3 = Number of Administrators Teachers and Workshop Personnel respectively.
M_1= Mean Responses of Administrators
M_2 = Mean Responses of Teachers
M_3= Mean Responses of Workshop Personnel
M_t = Mean Responses of all Respondents

3.2 Research Question Two

What are the managerial abilities of Administrators of Technical College workshops?

To answer this question, participants responded to 10 items relating to managerial abilities of Administrators. Their responses revealed that Administrators have majority of the managerial abilities outlined, with their mean responses ranging between 3.21 and 3.51 as revealed in Table 2.

Table 2: Respondents' Mean Scores on the Managerial Abilities of The Administrators of Technical College Workshops

		$n_1 = 101$	$n_2 = 140$	$n_3 = 24$	
S/No	ITEM	M_1	M_2	M_3	M_t
	Administrators have the managerial abilities to				
13	Make workshop environment appealing by their ingenuity.	3.30	3.12	3.21	3.21
14	Recommend teachers and workshop personnel to attend seminars on current issues on the management of workshop.	2.40	2.34	2.20	2.31
15	Provide enough security to the available tools and equipment in the workshop	3.43	3.52	3.58	3.51
16	Purchase tools, materials and equipment of correct specification	3.34	3.44	3.42	3.40
17	Supply workshop personnel with ledgers and other relevant books for proper record keeping	3.43	3.45	3.33	3.40
18	Provide the needed consumables for regular workshop practice	2.39	2.29	2.42	2.37
19	Provide storage for the supplied equipment by the government	3.47	3.40	3.29	3.39
20	Inspect workshops on regular basis to ensure compliance with standard	3.56	3.39	3.38	3.44
21	Provide all the needed safety devices to the workshop	2.46	2.40	2.38	2.41
22	Delegate all workshop related activities to the most senior staff in the department	3.21	3.19	3.13	3.18

3.3 Research Question Three

What are the approaches toward effective management of technical college workshops?

To answer this research question, a list of some approaches toward effective management of Technical College workshops provided a relevant checklist for respondents to indicate their opinions. Table 3 revealed that all the listed approaches met the criterion mean score of 2.50. Hence they were all regarded by respondents as relevant approaches for effective management of Technical College workshops.

Table 3: Mean Scores on Approaches toward Effective Management of Technical College Workshops

		$n_1 = 101$	$n_2 = 140$	$n_3 = 24$	
S/No	ITEM	M_1	M_2	M_3	M_t
23	providing security to the tools and equipment in the workshop	3.62	3.65	3.63	3.63
24	Regular seminars should be organized for those charged with workshop management	3.48	3.47	3.42	3.46
25	Inventory should be taken for tools, equipment and supplies.	3.54	3.56	3.50	3.53
26	Technical teachers should be engaged as full-time managers of facilities in the workshop	3.45	3.36	3.29	3.37
27	Encouraging NGO's to participate in the provision of workshop tools	3.47	3.38	3.21	3.35
28	Safety practices should be enforced at all times.	3.55	3.54	3.46	3.52
29	Regular maintenance of tools, materials and equipment in the workshop.	3.50	3.36	3.54	3.47
30	Organizing tools on the shelf and tool boxes based on the function they perform	3.45	3.46	3.38	3.43
31	Good planning of workshop activities to meet set standard by 'NBTE'	3.68	3.64	3.82	3.71
32	Drawing a code of conduct as a basis for discipline in the workshop	3.39	3.29	3.67	3.45
33	Provision of better conditions of service to the managers of the workshop	3.52	3.43	3.46	3.47
34	Workshop personnel with good behaviour and good attitude to work should be employed.	3.50	3.36	3.42	3.43
35	Cooperation and coordination among stakeholders in the workshop	3.29	3.24	3.33	3.29

3.4 Hypotheses

The null hypothesis (Ho_1) was *"there is no significant difference on the perception of Administrators, Teachers and workshop personnel with respect to how Technical College workshops are currently managed"*. The one way ANOVA indicated that the difference in perceptions of Administrators, Teachers, and workshop personnel on how Technical College workshops are currently managed was not significant. Table 4 revealed that F-ratio value (0.0067) was not significant at $p<0.05$ level of significance, therefore the null hypothesis (Ho_1) was not rejected and group comparison test was not necessary.

Table 4: One-Way Analysis of Variance (ANOVA) of Respondents Perceptions on How Technical College Workshops are Currently Managed

Sources of Variation	*df*	Sum of Squares	Mean Squares	F_{Cal}	F_{Crit}
Between groups	2	0.0042	0.0021	0.0067	3.00
Within groups	262	8.2400	0.0315		
Total	264	8.2442			

Note: $p < 0.05$, N = 265

The null hypothesis (Ho_2) was *"there is no significant difference on the perception of Administrators, Teachers and workshop personnel with respect to approaches towards effective management of technical College workshops"*. This hypothesis was tested and one way analysis of variance (ANOVA) revealed that F-ratio value (0.011) was not significant at $p<0.05$ level of significance, therefore, Ho_2 was not rejected (Table 5); hence group comparison test was not necessary.

Table 5: One-way Analysis of Variance (ANOVA) of Respondents on the Approaches towards effective Management of Technical College Workshops

Sources of Variation	*df*	Sum of Squares	Mean Squares	F_{Cal}	F_{Crit}
Between groups	2	0.0042	0.0021	0.0067	3.00
Within groups	262	8.2400	0.0315		
Total	264	8.2442			

Note: $p < 0.05$, N = 265

4 DISCUSSION OF FINDINGS

The findings on how Technical College workshops are currently managed as revealed in table 1 called for immediate change of attitude by the stakeholders. There was unanimous acceptance on the opinion of the respondents as Ho_1 was not rejected at 0.05 level of significance (Table 5). It indicated that managers of workshops usually wait for government to provide everything, obsolete equipment and spare parts are not being updated, consumable materials are not provided as at when needed and above all first aid boxes are not provided in the workshops. Government alone cannot provide the needed facility that is why several studies (Ibe, 1994; Bester, 2004; Yakubu, 2005) suggested alternative ways of providing needed facilities. Bester (2004) maintained that various mechanisms to fund Vocational Education and training in South Africa are being developed; including the Medium Term Expenditure Frameworks (MTEFs), special purpose funding, program based funding and public-private partnership funding. Some of these strategies can be experimented in Nigeria situation. Ibe (1994) suggested that the best way to equip the workshops with tools instead of waiting for government include among others; organizing special convocation, exhibition week, founder's days, borrowing and using final year student product to equip workshops. Also in line with this suggestion, Yakubu (2005) observed that financing of institutions in Nigeria is becoming prohibitive and a burden rather heavy for government to bear alone. He urged proprietors to explore other sources of funds to enable them generate enough to adequately equip institutions for effective teaching and learning.

For Technical institutions to achieve their aims as enshrined in the National Policy on Education, updating of obsolete equipment, spare parts, provision of consumable materials and first aid boxes in the workshops are equally important (Olaitan, 1996). Although the findings revealed that efficient allocation and utilization of spaces are planned, expenditures are planned such that they can be monitored and meetings are held regularly by heads of department and workshop personnel to monitor activities in the workshop, yet maintenance of tools is not a regular practice in the workshops. This might be as a result of lack of qualified personnel to handle maintenance activity. Study conducted by Olaitan (1989) suggested the need for skilled engineers rather than technicians alone to undertake maintenance activities. This also called for need to create among stakeholders, the awareness of maintenance and to inculcate maintenance culture in their philosophy of life.

Findings on the managerial abilities of the administrators of Technical College workshops (Table 2) shows that administrators do not have the managerial abilities to recommend teachers and workshop personnel to attend seminar on current issues on the management of workshops, they could not provide the needed consumables for regular workshop practice, and could not provide all the needed safety devices to the workshop. These findings have serious implications if Technical College workshops must continue to function in satisfying the aim for which they are set up. Seminars on current issues on the management of workshops will keep the teachers and workshop personnel informed on how best to organize both human and material resources in the workshop for maximum benefits. The work of Abdullahi (2003) emphasized that seminar should be organized for workshop personnel and teachers in order to update their skills in their

respective disciplines. In a similar contribution Olaitan (1994) observed that new technologies will necessitate constant rapid and effective training and re-training programs for the teachers of Vocational Technical Education.

The findings also revealed that as consumable materials are not provided in Technical College workshops to ensure regular practice in order to acquire the needed skills leading to the achievement of aims and goals of such institutions. Anyakoha (1992) emphasized that the development of useful skills can be reinforced by the appropriate selection and use of learning facilities and resources. Findings on managerial abilities of Administrators (Table 2) revealed that they lack managerial ability to provide all the needed safety devices to the workshop. Maintaining a safe work place has been shown to enhance an organization's global competitiveness and enables the organization to meet desired objectives (Goetsch, 2008).

According to the findings (Table 3), several approaches could be adopted toward effective management of Technical College workshops, likewise the test of null hypothesis (Table 5) attest to this, as there was no significant difference on the opinions of Administrators, teachers and workshop personnel. Some of these approaches among others include: good planning of workshop activities to meet the set standard by NBTE, providing security to the tools and equipment in the workshop. Olaitan, *et al* (1999) highlighted several techniques which can help a program achieve effectiveness. These techniques include good planning of program, organization of facilities, arrangement of facilities, sequence learning, among others, all of these are in consonance with the findings of this work. In support of findings as regard to security, Okorie (2000) maintained that big machines are usually fixed to the floor in order to be firmed and devoid of vibration when in use and to serve as security mechanism. He emphasized that tools kept in the store under lock are signed out to work personnel during working hours and signed in after each day's work, to ensure their security.

Findings of this study with respect to encouraging NGO's to participate in the provision of tools is in agreement with Umar, Audu and Idris (2009) where it was suggested that Non Government Organizations (NGOs), Community based Organizations (CBOs) and Parent Teacher Association (PTA) should be made to play a vibrant role in moving Technical Education forward. Okorie & Ezeji (1988) stressing on measures for maintaining discipline in industry outlined some of the methods which laid credence to this work, they include: drawing a code of conduct, provision of better condition of services, organization having interest of workers in mind among others.

5 CONCLUSION AND RECOMMENDATIONS

Management has been defined as the process of getting things done effectively and efficiently, through and with other people (Robbins & Decenzo, 2001). An effectively managed Technical College workshop through the basic process of planning, organizing, leading and controlling (Godbey, 2008) will produce competent students that will be self reliant and job givers instead of job seekers. Evident from this study however revealed that the way Technical College workshops are currently managed need improvement;

Administrators lack some managerial abilities and the study identified some approaches toward effective management of Technical College workshops.

Based on the above revelations the following recommendations have been proffered in order to have effectively managed Technical College workshops:

- Managers of the workshops should use alternative approaches such as public private partnership, NGO's, CBO's, and PTA in the provision of facilities and management of workshops instead of waiting for government to provide everything.

- Maintenance of tools should be a regular practice in the workshop. The Administrator should create the awareness on importance of maintenance culture in teachers and workshop personnel through the use of their ingenuity.

- Administrators should recommend teachers and workshop personnel to attend seminars on regular basis in order to update their knowledge on the current practices in the management of Workshops.

- Administrators should improve on their managerial abilities on the aspect of providing the needed consumable materials for regular workshop practice. This will lead to achievement of aims and goals of technical Colleges.

- There should be good planning of workshop activities in order to meet set standard by NBTE. This will enable the institutions to train the students toward achieving the aims and objectives of such institutions.

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