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MECHANISM FOR EFFECTIVE MANAGEMENT OF HUMAN AND MATERIAL RESOURCES IN TECHNICAL COLLEGES IN NIGER STATE.

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Abstract

This study was designed to identify mechanism for effective management of human and material resources in technical colleges in Niger State. Three research questions were formulated and answered. Two-hypotheses were tested at .05 level of significance. A descriptive survey research design was employed; a 30 item questionnaire was developed and used to collect data from respondents consisting of 40 administrators and 100 teachers of technical colleges in Niger State. The data was analysed using frequency count, mean and t-test statistics. The study revealed among others that Workshops equipment and tools are rarely maintained; principals, teachers and students do not relate freely in academic environment, there is inadequate supervision of technical college programmes by government agencies. It was therefore recommended among others that principals, teachers and students should relate freely in academic environment, equipment for student practice and workshop should be maintained regularly. There should be adequate supervision of technical colleges programmes by government agencies and that there should be persistent monitoring of technical college administrators.

Introduction

Management implies the process by which a cooperative group directs action towards common goal. In modern organisational contexts, management is viewed as a social process which is designed to ensure cooperation, participation, intervention and involvement in the effective achievement of a given objectives. Aransiola (1999) maintained that management involves the coordination

and control of human, infrastructure, materials, equipment, facilities and finance used for the running, sustenance and improvement of a given set-up efficiently, and effectively. Salami (2005) emphasised that the concept of management has to do with administration of controls and the process of making rational decision in an organisation.

Management involves strategic innovation, initiating and bringing about

changes, creativity, problem solving, decision making, actively seeking out alternatives and opportunities, formulating goals and priorities, redeploying resources, negotiating, resolving conflicts, dynamic or active leadership, diplomacy, entrepreneurship and a high degree of risk taking and entrepreneurship (Zakariya, Yakaya & Muhammad, 1997). Technical college is that section of technology education, meant for either pre-professional teaching or for production of low-level manpower (skilled labour) i.e. artisans, craftsmen and master craftsmen for the labour market. Technical colleges according to Okoro (1993) are regarded as the principal vocational institution in Nigeria, they give full vocational training intended to prepare students for entry into various occupations. Technical college programme and technology education at senior secondary school level is the foundation for building a veritable technology education at any given society, the quality of which is highly depend on the kind of management accorded that particular society.

Technical college facilities must be properly managed and organized in a

scientific way so as to make educational system more effective and functional than local apprenticeship system. There has been an increasing emphasis in the development of technical colleges in Nigeria. Industrialization cannot be properly initiated and sustained unless the educational system is geared towards supplying the industries with requisite manpower. The technical colleges responsible for provision of this manpower are ineffectively managed. This might probably be due to the cost of running the programme or attitudes of the administrators. To obtain practical skill, Nwakan (1993) noted that building a well-equipped workshop is of paramount importance in the technical college because of the practical oriented nature of the programme. Unfortunately, this is not the situation; most of the technical colleges do not have adequate workshops. Equipment in most technical colleges are poorly maintained and inadequate for students practice. The performance has nothing to write home about in terms of independence of graduates, their gradual employment and contribution to technological growth in the country. Aina (2008) mentioned the performance of National Technical

Certificate (NFC) and National Business Certificate (NBC) Examination level in 1999 revealed very disturbing statistics, attributable to other neglect, poor funding, inadequate resources, poor management of facilities, with failure rates from 14% - 48% in Engineering trades, 12% - 50% in Construction trades and 18 - 94% in Business trades. It should be noted that setting up technical colleges and equipping them with human and material resources is not enough, but managing such high investment must be devised in order to yield the expected result. Hence, the question of efficient management of this sector becomes imperative to find a lasting solution to problem of technological backwardness in the country.

Purpose of the Study

The purpose of this study is to determine the mechanism for effective management of human and material resources in Technical Colleges in Niger State. Specifically the study will find out:

1. Current state of management of human and material resources in technical colleges.

2. Constraints to effective management of human and material resources in technical colleges.
3. Strategies for effective management of human and material resources in technical colleges.

Research Questions

In order to achieve the objectives of this study, the following research questions were formulated to guide the study:

1. What is the current state of management of human and material resources in Technical Colleges?
2. What are the constraints to effective management of human and material resources in Technical Colleges?
3. What are the strategies for effective management of human and material resources in Technical Colleges?

Hypotheses

The following null hypotheses were stated and tested at 0.05 level of significance in order to guide the study:

H₀₁: There is no significant difference in the mean responses of administrators and teachers on the current state of management of human and material resources in technical colleges.

H₀₂: There is no significant difference in the mean responses of administrators and teachers on the strategies for effective management of human and material resources in technical colleges.

Methodology

This section describes research design, area of the study, population, sample and sampling techniques, instrumentation, method of data collection and method of data analysis used for the study.

Design

A descriptive survey research was adopted to seek the opinions of administrators and teachers of technical colleges on the management of human and material resources in technical colleges.

Area of the Study

The study covered five technical colleges located in the three educational zones of Niger State and one Federal Science Technical College in Shiroro, Keta, Niger State is located in the present North Central States of Nigeria.

Population

The population for the study consisted of all the administrators (principals, vice principals and head of various departments in technical colleges) and all the teachers teaching in the technical colleges located in Niger State.

Sample and Sampling Technique

Sample of 40 administrators and 100 teachers were drawn randomly from the five technical colleges and Federal Science Technical Colleges in the five educational zones of Niger State.

Instrumentation

A structured questionnaire tagged Management of Human and Material Resources questionnaire (MOHAMRQ) was used for the collection of data. It was divided into sections A - C based on the research

questions. The three sections contained 10 items each as shown in table 1, 2 and 3 respectively. The instrument therefore consisted of a total of 30 items, rated on a four point scale (Strongly Agree, Agree, Disagree and Strongly Disagree).

Method of Data Collection

The data was collected by the researcher himself.

Method of Data Analysis

The data was analyzed using frequency, mean and t-test. The three research questions were analysed using mean and the two hypotheses were tested using t-test. The cut off point for the mean was fixed at 2.50 being the average of 4-point scale used for the study, therefore, any item that is within a mean range of 2.50 and above was regarded as agreed, while any mean

below 2.50 was regarded as disagreed. Hypotheses were accepted where t-calculated was less than ± 1.96 and rejected where t-calculated was equal or greater than ± 1.96 hence termed significant.

Result Presentation

The result of the data analysis are presented in the order of research questions and hypotheses that were posed for the study

Research Question 1

What is the current state of management of human and material resources in technical colleges?

Table 1 shows the responses of both administrators and teachers on the current state of management of human and material resources in technical colleges.

Table 1

Responses of Administrators and Teachers on Current State of Management of Human and Material Resources in Technical Colleges

S/No	Items	$N_1 = 40$ \bar{X}_1	$N_2 = 100$ \bar{X}_2	\bar{X}_3	Remarks
1	Workshops, equipment and tools are rarely maintained	2.50	2.73	2.62	Agree
2	Tools and equipment are adequately secured from vandalization	2.68	1.56	2.12	Disagree
3	Security personnel are organized to guide the workshop and other parts of the school	3.15	2.40	2.78	Agree
4	Principal, teachers and students relate freely in academic environment	2.51	2.40	2.46	Disagree
5	Funds are usually made available by the administrators for purchasing consumables	3.02	1.68	2.35	Disagree
6	Supporting staff are organized to take charge of their respective responsibility	2.50	2.82	2.66	Agree
7	Seminars are organized for staff for better handling of teaching resources	2.91	2.05	2.48	Disagree
8	Material resources utilization are monitored adequately	3.25	3.05	3.15	Agree
9	Maintenance of equipment are usually scheduled and strictly adhered to	2.50	2.15	2.33	Disagree
	Grand Mean	2.78	2.32	2.55	Agree

Key: \bar{X}_1 = Mean responses of administrators \bar{X}_2 = Mean responses of teachers
 \bar{X}_3 = Average mean responses of administrators and teachers
 N_1 = Number of administrators N_2 = Number of teachers

Table 1 revealed that respondents agreed with items 1, 3, 6 and 8 with Average mean responses ranging between 2.62 - 3.15 while they disagreed with other 5 - items with mean ranging between 2.12 - 2.48 thus

indicating the state of affairs in the management of human and material resources in technical colleges. The grand mean of the administration was at 2.78 while that of teachers was 2.32.

Research Question 1
 What are the perceptions of administrators and teachers on the management of human and material resources in technical colleges?

Table 1 shows the responses of administrators and teachers on the perceptions on effective management of human and material resources in technical colleges.

Table 1
Responses of Administrators and Teachers on Contributions to Effective Management of Human and Material Resources in Technical Colleges

S/N	Items	$H_0 = 0$ $H_1 = 100$			Remarks
		\bar{x}_1	\bar{x}_2	\bar{x}_3	
01	The involvement of staff in the purchase of materials/equipment	1.67	1.18	1.03	Agree
02	Lack of control that is made students activities	1.21	1.20	1.00	Agree
03	Lack of adequate security in the school environment	1.48	1.10	1.19	Agree
04	Strategic qualified technical personnel in technical colleges	1.67	1.10	1.11	Agree
05	Lack of control relationship between staff and administrators	1.01	1.18	1.04	Agree
06	Efficient or mismanagement of training that offered in technical colleges by the administrators	1.10	1.01	1.04	Agree
07	Lack of involvement of staff with appropriate incentives	1.38	1.11	1.04	Agree
08	The use of non-technical personnel as the principal of technical colleges	1.10	1.00	1.00	Agree
09	Inconsistent monitoring of technical college administrators	1.04	1.00	1.04	Agree
10	In ability to separate non-teaching technical training activities	1.41	1.11	1.17	Agree
	Grand Mean	1.47	1.40	1.08	Agree

Table 1 revealed that respondents agreed with items 01-10 with mean ranging from 1.01 - 1.67 as contribute to effective management of human and material resources in technical colleges.

Research Question 3

What are the strategies for effective management of human and material resources in technical colleges?

showing responses of respondents on the strategies for effective management of human and material resources in technical colleges

Data necessary for answering this research question is presented in table 3

Table 3

Responses of Administrators and Teachers on the Strategies for Effective Management of Human and Material Resources in Technical Colleges

S/No	Items	N ₁ = 40			N ₂ = 100			Remarks
		X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	
20	Government anti-corruption drive should be spread to deal with technical college administrators misappropriating fund	3.21	3.42	3.32				Agree
21	Funding of technical colleges should not be left to government alone to bear	2.94	3.08	3.01				Agree
22	There should be cordial relationship between administrators and teachers	3.24	3.40	3.32				Agree
23	There should be persistent monitoring of technical college administrators	3.68	3.80	3.74				Agree
24	Responsibilities of administrative staff should be clearly defined	2.50	2.77	2.64				Agree
25	There should be adequate supervision of technical colleges programmes by government agencies	3.24	3.00	3.12				Agree
26	Principals with exceptional managerial quality should be honoured by the government	3.56	3.18	3.37				Agree
27	Staff should be involved in the purchase of materials/equipment for technical colleges	2.62	3.02	2.82				Agree
28	There should be collective responsibility by the administrators and other staff in technical colleges	3.60	3.42	3.01				Agree
29	Motivation of staff through incentives should be provided by the government	2.81	2.69	2.75				Agree
30	Regular seminar/workshop should be organized for staff	2.69	2.98	2.84				Agree
	Grand Mean	3.01	3.16	3.09				Agree

Table 3 revealed that both the administrators and teachers agreed with all the items suggested on the strategies for effective management of human and material resources in technical colleges with mean score ranging between 2.64 and 3.74. The grand mean of administrators stood at 3.01 and that of teachers was 3.16.

Table 4

t-test of Difference Between Administrators and Teachers on the Current State of Management of Human and Material Resources in Technical Colleges

Group	\bar{X}	S.D	N	df	t_c	t_t	Decision
Administrators	2.78	1.03	40	138	2.01	± 1.96	Significant
Teachers	2.32	1.60	100				

Key. \bar{X} = Mean S.D. = Standard Deviation t_c = t-calculated
 t_t = t-table value df = Degree of freedom N = Number of respondents

Table 4 revealed that t-calculated is greater than the t-table value, the result of this test suggest that the difference between the scores of administrators and

Hypotheses Testing

The 2-null hypotheses tested at .05 level of significance are presented in Table 4 and 5 to determine whether differences exist between the responses of administrators and teachers of technical colleges.

teachers are statistically different. It is therefore concluded that there is significant difference between the mean scores of administrators and teachers, null hypothesis was then rejected.

Table 5

t-test of Difference Between Administrators and Teachers on the Strategies for Effective Management of Human and Material Resources in Technical Colleges

Group	\bar{X}	S.D	N	df	t_c	t_t	Decision
Administrators	3.01	1.35	40	138	-0.60	± 1.96	Not Significant
Teachers	3.16	1.30	100				

Table 5 however revealed that there is no significant difference between the mean scores of administrators and teachers, as t -calculated was less than t -table value. Null hypothesis was therefore accepted.

Findings/Discussion

Analysis on table 1 shows that respondents agreed with 4 items and disagreed with 5 items. This revealed that workshops, equipment and tools are rarely maintained, principals, teachers and student do not relate freely in academic environment, seminars are not organized for staff for better handling of teaching activities, although findings shows that security personnel are organized to guard the workshop and other parts of the school but funds are usually not made available by the administrators for purchasing consumables. Table 4 also revealed that null hypothesis was rejected, this indicate that administrators and teachers differ significantly on the current state of management of human and material resources in technical colleges. These findings are in agreement with the work of Umar (2008) who emphasised that

guidelines for maintenance of tools and appliances should be followed, regular seminars should be organized for those charged with management of workshop. On funding of technical colleges in order to provide needed consumables Uthman (2000) saw the need to privatize the workshop equipment and facilities, so as to help in effective management and increase efficiency. In the same vein Yakubu (2005) observed that financing of institutions in Nigeria is becoming prohibitive and a burden rather too heavy for governments to bear alone. He urged proprietors of schools to explore other sources of funds to enable them generate enough to adequately equip institutions for effective teaching and learning.

Table 2 revealed that money not released to technical colleges is being diverted or misappropriated by the administrators, therefore new tools, equipment and other materials can not be purchased. Other constraints to effective management of human and material resources in technical colleges according to the findings include lack of motivation of staff with appropriate incentives, lack of needed fund to

concrete academic activities, lack of cordial relationship between staff and administrators, inadequate qualified technical personnel in technical colleges among others. These findings are in agreement with works of Adu and Urochukwu (2000), Tajudeen (2000) and Isaka (1997). Adu and Urochukwu (2000) maintained that inadequate funding of technology education has been a major problem confronting technology education in Nigeria. In his submission Tajudeen (2000) emphasized that it is only through adequate funding of technology education that new equipment and facilities for skill development can be put in place. While Isaka (1997) lamented that the problem faced by technology education includes inadequate funding leading to inadequacies of human and material resources. Much fund is needed to provide the needed equipment and infrastructural facilities in technical colleges.

With reference to strategies for effective management of human and material resources in technical colleges, Table 3 revealed that government anti-corruption drive should be spread to deal with technical college administrators

misappropriating fund, there should be persistent monitoring of technical college administrators, there should be cordial relationship between administrators and teachers and that principals with exceptional managerial quality should be honoured by the government. Table 5 also revealed that null hypothesis was accepted, this indicate that administrator and teachers do not differ significantly on the strategies for effective management of human and material resources in technical colleges. These findings are in consonance with the work of Ma'aji (2005) who emphasized that there should be cordial relationship between teachers and administrators for collective responsibilities in managing technical colleges effectively. In the same vein, the findings of this study is in agreement with the study conducted by Adu, Umar & Idris (2006) where they emphasized that government anti-corruption organisations such as Economic and Financial Crime Commission (EFCC) and Independent Corrupt Practices Commission (ICPC) should deal decisively with erring technical college administrators in order to serve as a deterrent to any

administrator who may want to involve himself in such corrupt practices. The findings of this study on government honouring principals with exceptional managerial quality as a source of motivation supported the work of Nduanya (2005) where he emphasized that the act of indiscipline are directly or indirectly connected with depressingly low socio-economic situation, motivation and image of teachers, arising from unsatisfactory nature and or implementation of their conditions of services. Therefore, motivation is one of the keys to effective management of human and material resources in technical colleges.

Conclusion

Based on the findings of this study, it was concluded that the current state of management of human and material resources in technical colleges of Niger State need serious improvement. There are serious constraints to effective management of human and material resources and that

several strategies could be adopted in order to effectively manage human and material resources in technical colleges of Niger State.

Recommendations

Based on the findings of the study, it was recommended that:

- (1) Seminars should be organized for staff for better handling of teaching resources.
- (2) Workshops, equipment and tools should be maintained regularly.
- (3) Tools and equipment should be adequately secured from vandalism.
- (4) Government anti-corruption drive should be spread to deal with technical college administrators misappropriating fund.
- (5) Adequate funds should be made available by the administrators for purchasing consumables.
- (6) Principals with exceptional managerial quality should be honoured by the government.
- (7) Principals, teachers and students should relate freely in academic environment.

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