Effective Management of Non –Human Resources in Technical Colleges in Kaduna State

By

Istifanus Kammai Kalat
Department of Industrial and Technology Education,
Federal University of Technology, Minna.

Abstract

This paper examined the strategies for effective management of non-human resources in Technical Colleges in Kaduna State. The approach of the study was the survey method, using a 28 questionnaires divided into 3 clusters as the instrument for data collection. Three research questions and two hypotheses were formulated for the study. All the 25 Head of Sections (HOS) in the Technical Colleges in the State constituted the population of the study. A total study of the population was done, Descriptive statistic was used to answer the research questions, while Analysis of variance (ANOVA) statistic was employed to test the null hypotheses at 0.05 level of confidence (P.<0.05) The findings of the paper include: The predominant management styles used were the complete Tool Inventory system (C.T.I.S) and the Borrower Lost- Replace System(B.L.R.S) Constraints to effective Management were lack of fund, lack of burglar –proof on the windows of the workshop and soon. It was recommended that, workshop Assistant should be employed in each section, burglar-proof should be welded to the windows of the workshop and funds generation should be encouraged at departmental level far the purpose of training materials.

Introduction

Management is the art or process of tactfully controlling or bringing various elements to work together for some particular purpose. Balogun (1981) sees management as a means of handling or arranging umber of people, things or situations to bring about what one desires. In Technical and Vocational Education (TVE), Management is not rested solely on the shoulders of the overall head of the institution. Teachers and supporting staff alike must manage materials, environment of the institution and time for skill acquisition and development towards the institutional specific purposes(s). To effectively manage all these things, one must have a vivid understanding of what the nature of each is, as well as their weakness and strength. Azubuike (1993), viewed Management as the carrying out of operations designed to accomplish aims and effectuate the policies of an organization. This definition is in sympathy with Brech (1963)'s definition, which described management as "Social process entailing responsibility for the effective and economic planning and regulation of the operations of an enterprise in fulfillment of a given purpose or task. The responsibility in question embraces judgment and decision in determining plans, the development of data procedures to assist control or performance and progress against plans. Resource

Managers in Vocational and Technology Education should be well acquainted with various skills needed to be developed in students through vocational and technology education. They should develop strategies for acquiring them and try to make available necessary tools needed for imparting these skills. An important strategy in this regard involves high level planning, coordinating, controlling, budgeting, record keeping and evaluation of physical resources.

Marshall (1965), separated management from other functions of production, Schumpeter (1975) agreed with the idea that management was a separate entity, being concerned with innovation as well as administration Light (1976) viewed management as the process of planning, organizing, directing, coordinating and controlling men, materials, machines and money, so as to secure the optimum achievement of objectives.

Efficient Management in Technology Education- involves strategy innovation, initiating or bringing about change, creative problems solving and decision making. With the way new things are coming to play in human life in this computer age, any business that does not innovate, will surely liquidate. Management therefore involves, the actively seeking out alternatives and opportunities, reformulating goals and priorities, redeploying resources, negotiating, resolving conflict, dynamic or active leadership, diplomacy, statesmanship and a high degree of risk-taking and entrepreneurship.

Efficient Management of non-human resources plays a tremendous role in enhancing the quality and efficiency in vocational education. An extra dimension is however added to any instructional programme, when properly managed. Momoh (1988) classified non-human resources into three as follows:

I. Monetary

II. Raw Materials and

III. Capital resources such as equipment and so on, used in an enterprise, be it educational system or industrial base activities.

Fafunwa (1991), regrettably observed that a lot of equipment imported to accelerate technological education in this country had remained uninstalled, underutilized and uncatered for, also Mbata (1990) revealed that some laboratory equipment, workshops, and classrooms are sub-standard not to talk of being properly maintained. As a developing nation, Nigeria has a high manpower need and therefore cannot afford to toil with or mismanage her hard-earned tools and equipment, which are provided for skills acquisition. If the equipment are wasted, the vocational and Technical Education objectives will never be attained. The purposes of this study is to find out the management styles, constraints of managing, non human resources and explore ways of improving their security in the Technical Colleges of Kaduna State. Specifically, the study was designed to:

I. Identify the management styles used for tools material an equipment in the College,

II. Determine the constraints of managing, tools, materials and equipment in the College.

III. Explore ways of improving the security of non-human resources.

Research Questions

For the purpose of this study, answers to the following questions were sought.

1) What management styles are employed for tools materials and equipment?

2) What are the constraints of effective management of the non-human resources in the Technical Colleges?

3) What are the ways by which the security of non-human resources can be improved?

Hypotheses

HO_1: There is no significant difference in the mean responses of the four (4) Technical Colleges in Kaduna State on the Management styles employed for keeping and controlling tools in their workshops.

H_2: There is no significant difference in the mean ratings of the constraints towards efficient management of non-human resources in the four (4) Technical Colleges of Kaduna State.

Methodology
Population:

The population of the study consisted of all the twenty five (25) Heads of Technical sections in all the four (4) Government Technical College of Kaduna State. They also take part in class teaching and workshop activities.

Instrument:

A four point Likert scale questionnaire was used as the instrument for data collection. It was constructed in lien with the research questions of the study. The instrument was subjected to face validation by four technical education experts. The researcher's experience on educational research, complemented by those of the four experts were consolidated for a more reliable questionnaire.

Technique for data Collection/Analysis

25 copies of the questionnaire were administered by the researcher. The same 25 copies of the questionnaire were returned representing 100% return.

The data for this study was analyzed using frequency counts and means to answer research questions while Analysis of variance (ANOVA) Statistical method was used to test the null hypotheses. Specifically, the following procedures were employed in the analysis of the data for this study, as appropriate to each research question and hypothesis.

1) The data collected was classified according to the Technical Colleges the respondents were teaching staff. The data was arranged into four (4) groups.

2) The hypotheses formulated were tested at 0.05 confidence level, using the Analysis of Variance (ANOVA) statistic method, to determine whether significant difference exist in the management styles for the non-human resources and the constraints that act against their effective management ANOVA statistical method was considered appropriate for testing the hypotheses, since more than two Colleges were compared as supported by Ferguson (1981). The ANOVA is used mainly because of its ability to assess the relative magnitude of variation, which may result and ascertain, whether a particular part of the variation would be grater than or equal to the confident level of more than two groups.

3) The responses made by the subjects to each questionnaire item were converted to frequency counts whose means were used to compute the responses to the items relative to each research question.

4) Any mean that amounted to 2.5 or above was considered to be high or agreed upon. An calculated mean found be below 2.5 was regarded to be low or rejected. The 2.5 decision point was determined by finding the mean of the four –point Likert scale as follows:

$$\text{Mean } (x) = \frac{4+3+2+1}{4}$$

$$= \frac{10}{4}$$

$$= 2.5$$

Findings

After a careful analysis of the data collected, the following findings were discovered.

1. The predominant management styles for non-human resources in most of the technical sections in the technical colleges were:
   - (a) Complete Tool Inventory System (C.T.I.S) and
   - (b) Borrower Lost – Replace System (BLRS)
2. The major constraints for the effective management non-human resources in Kaduna State Technical Colleges were.
   - a) Inadequate planning of sharp facilities.
   - b) Lack of or insufficient financing to purchase materials and modern tools.
   - c) Short time span of lesson, on the College general time-table.

   - d) Student vandalism of workshop tools.
   - e) Insufficient material for workshop activities
   - f) Inadequate tool far workshop activities.
   - g) Security of tool rooms, far "workshop activities.
   - h) Over population of students and,
   - i) Incessant theft of workshop tools.
3. Security for the non-human resources in the workshops could be improved by applying the following measures:
   - a) Burglar proofing the workshop windows.
   - b) Employing security guards and workshop Assistant to each workshop,
   - c) Providing security lights around the workshops,
4. There was not any significant difference in the management styles employed by each of the Technical Colleges in the state.
5. the constraints to effective management of non-human resources in each of the Technical Colleges do not differ significantly.

Table 1: Mean Responses on the Management Styles of Non-Human Resource.

S/N0	Management Style	Means(x)					Remark
		X_1	X_2	X_3	X_4	X_G	
1	Complete Tool Inventory System (CTIS)	3.33	3.68	2.80	3.94	3.44	A
2	Student Participatory Management Style (SPMS)	1.27	1.00	2.73	1.67	1.68	D
3.	Borrower Damage-Repair System (BDRS)	1.07	0.64	2.27	1.39	1.34	D
4.	Borrower Loss – Replace system (BLRS)	3.05	2.79	2.60	3.45	2.96	A
5.	Long-term tool Loaning System(LTLS)	2.13	0.96	1.27	1.45	1.45	D

Key

X_1 X_2 X_3 and X_4 = Mean responses from each Technical Colleges

X_G = Ground means of responses.

Table 2: Mean Responses on the Constraints to Effective Management of non-human Resources in the Technical Colleges.

S/NO	Management Style	Means(x)					Remark
		X_1	X_2	X_3	X_4	X_G	
1.	Planning	3.87	2.54	3.00	3.14	3.14	A
2.	Finance	3.61	3.67	3.13	3.47	3.47	A
3.	Time Span	3.40	3.45	2.87	3.87	3.40	A
4.	Student Vandalism	3.13	3.47	3.67	3.61	3.48	A
5.	Material Storage	2.73	2.52	2.40	2.43	2.52	A
6.	Tool Storage	3.40	2.64	3.08	3.20	3.90	A
7.	Tool Racks	1.83	1.96	2.40	1.13	1.18	D
8.	Workshop assistants.	2.73	2.30	3.80	3.07	2.30	D
9.	Tool room security	3.27	3.25	3.57	3.20	3.32	A
10	Student Population	3.11	3.86	3.13	3.33	3.11	A
11.	Project Storage	2.13	2.38	2.73	2.28	2.38	D
12.	Theft	3.00	2.61	3.00	3.40	3.00	A

X_1, X_2, X_3 and X_4 = Mean responses from each of the four (4) Technical College in Kaduna State.

X_G = Grand mean of responses.

Table 3: Mean Responses on ways for improving security for non-Human Resources in Technical Educations in Kaduna State.

S/NO	Management Style	Means(x)					Remark
		X_1	X_2	X_3	X_4	X_G	
1.	Provision of burglar-proof	3.94	3.68	3.80	3.33	3.70	A
2.	Provision of Iron doors.	3.00	2.45	3.60	3.79	3.25	A
3.	Provision of iron windows	1.27	1.00	1.67	2.73	1.67	D
4.	Use of tool boxes	2.43	1.36	2.53	3.07	2.34	D
5.	Use of wardrobe	1.07	1.33	2.27	0.64	1.33	D
6.	Security guards	3.13	2.96	2.45	2.27	2.73	A
7.	Use of security lights	3.04	3.04	3.00	3.07	3.04	A
8.	Jam locks and Pad Locks.	3.07	3.47	2.67	2.36	2.89	A
9.	Students guarding on shifts	1.00	0.09	1.67	2.33	1.67	D
10.	Fencing workshop areas	2.16	1.43	2.33	2.73	2.16	D
11.	Tool boxes attached to work benches	073	0.96	1.53	0.57	0.96	D
12.	Blocking windows of tool rooms	3.13	2.61	2.36	2.33	2.67	A

X_1, X_2, X_3 and X_4 =Mean responses from each of the four (4) Technical Colleges in Kaduna State.

X_G =Ground mean of response.

Table 4: ANOVA   Summary of Responses on Management Styles for non-human Resources.

Source of variance Between group	Sum of squares	d.f	Mean squares	f.Cal.	F-Grit	P
Between group	0.34	3	0.17			
Within group	32.16	16	0.97	0.17	3.34	0.05
Total	8.51	47	0.29			

Table 5
ANOVA Summary of Responses on Constraints to Effective Management.

Source of variance Between group	Sum of squares	d.f	Mean squares	f.Cal.	F-Grit	P
Between group	3.22	3	0.17			
Within group	5.29	44	0.20	0.05	3.35	0.05
Total	32.50	19	0.93			

Discussions

The findings of this study revealed on table 1 that the predominant management styles employed in the technical Colleges are: Complete Tool Inventory System (CTIS) with grand mean of 3.44. This is followed by the Borrower last- Replace System (BLRS), with a grand mean response of 2.96, both showing agreement of being highly utilized, The complete Tool Inventory System is utilized more, because each College Principal gives instruction that stock should be taken both at the beginning and at the end of each term (M.O.E; Kaduna State 1988). The Borrower lost – Replace System follows, due to the fact that careless students take tools away from the workshop, sometimes with permission and sometime without. To maintain tools for teaching, the students concern should replace the misplaced one.

Table 2 showed that planning, finance, time-span, student vandalism, lack of adequate material storage, inadequate tool storage facilities, tool room security, uncontrollable student population and theft constituted the main constraints to effective management styles in the technical Colleges.

Planning with mean response of 3.14 can be improved by government policy. Planning becomes necessary to achieve the goals and objectives of these institutions. Nothing could be said of managing non-human resources in the absence of planning. When planning is wrongly done, the entire exercise fails.

Respondents' opinions showed, finance to be a formidable constraint to management of non-human resources. This could be as a result of planning becoming, share waste of time, if sufficient fund is not available for the acquisition of physical resources and maintenance thereafter. Unfortunately, the government of the day will always say "there is no money" to official requisition.

Student enrolment with a mean of 3.11 is a disturbing issue in the Management of Vocational Education. Enrolment should be controlled, so that the population of students admitted does not out weight the capacity of learning and facilities and tools available for the students. In Vocational Technical Education the student population should not exceed twenty five (25) per class (N.B.T.E 2000). Administrators of

Vocational Education should endeavour to reconcile the student enrolment with the available classrooms, materials, and tools available for learning.

Provision of burglar proof on workshop windows had a mean response of 3.75 as a measure of improving security for non-human resources. This is because when burglar proof are welded to windows and doors of a workshop, they help greatly in protecting against thieves, who may aimed at stealing when nobody is around..

Provisions of iron doors to workshop with a mean of 3.25, is another important measure of security. Respondents perceive this way, because the door is usually the most convenient place to past through when a thieve is carrying away very big items.

Provision of security guards to workshops had a mean of 2.73, was agreed upon by respondents to be a good measure of improving the security in the workshops. This was so because the presence of the security guard at the vicinity of the workshop, should repel thieves, who come to break and steal. It was also shown that the provision of security lights to workshops, use of Jam-lock and Pad-Locks and the complete blocking of windows to tool reams had means at 3.04, 2.94 and 2.67 respectively were agreed to be measure that will be improve the security of the non-human resources in the Technical College.

Security lights will help to check the activities of theirs. Jam-locks /padlocks tool reams will also reduce the activities of thieves in frustrating learning in Technical Colleges in Kaduna State.

Conclusion

The Management level as practiced in Technical Colleges today regarding tools, materials and equipment is un-encouraging. Converted and conscientious effort ought to be made to improve and standardize the management outfit for non-human resources in the Technical Colleges. Efforts should be made by the administrators to ensure that student enrolment into the Colleges is done with consideration of the available tools, equipment and materials for training the students; This will avoid the overstretch. Of the tools and equipment, hence the reduction o their life spans. Technology subjects are practical subjects and must be taught in the Colleges using instructional materials. For teaching/Learning to continue in the technical Colleges, non-human resources require better planning, management and maintenance.

Recommendations

Based on the finding of the study and the conclusions drawn, the following recommendations were made.

1) Effective equipment management training should be organized for serving technical teaches in Kaduna state.

2) A good delegation an checking system for tools and equipment should be introduced into the monitoring mechanism of Technical Colleges in Kaduna State.

3) All the technical teachers must directly involve themselves in the monitoring of the workshops.

4) Technical department in the Colleges should service all their tools and equipment periodically.

5) Proper records of events, material purchased for schools use, students' records and so on must be kept.

6) Different ways of generating income for the financing of the programmes should be encouraged at departmental level.

7) Burglar-proof should be provided to all windows of each workshop.

8) All doors to tool rooms in workshops should be metal types.

9) Government should employ the service of at least a security guard

and Workshop Assistant to all workshops.

10) Security lights should be fixed round at the workshops.

11) Fixing of windows to the tool room should be avoided to aid better security.

12) Stealing of tools by students should be checked by giving more attention to the workshop activities when the students are in the workshops.

13) Student enrolment should not exceed twenty five (25) per class.

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