WORKSHOP PRACTICE MANAGEMENT SKILL IMPROVEMENT NEEDS OF ELECTRICITY/ ELECTRONICS TEACHERS IN TECHNICAL COLLEGES IN NIGER STATE, NIGERIA

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Abstract

The general objective of the study was to determine Workshop Practice Management Skill Improvement Needs of Electricity/ Electronics Teachers in Technical Colleges in Niger State, Nigeria. The study was a survey. The population comprised 81 Electricity/Electronics teachers in technical colleges in the states. A structured questionnaire containing 75 items was designed and used for data collection. A total number of 81 copies of the questionnaire were distributed and all the 81 copies were retrieved given a return rate of 100 percent. The data was analysed using mean and standard deviation to answer the five research questions. t – test was used to test the hypotheses at 0.05 level of significance. The findings of the study are: involve students in contributing to their attainment of overall objectives in the workshop, plan effectively for tool storage and facilities. It was recommended that enough materials should be provided by the government for use in the workshop.

Introduction

Trade subjects are unique subjects because they are skill oriented and requires the use of workshop for provision of learning situation which a learner could experiment, study, imagine, create, design, construct, dismantle, repair and build equipment (Suleiman, 2000). Waheel (2002) maintained that technical education is supposed to link together the heads and the hands so that the people could use their brains and their hands to produce. The student's attitudes towards technical subjects can be positively improved if the right workshop management skills are employed by the technical teachers. Workshop here refers to a structured building where different hand tools and machine are kept (Usman, 1992). Electricity/Electronic Workshop is a place where electrical and electronic equipment and materials for practical lesson are kept and utilized for training in skills acquisition. In electricity and electronic workshop students are taught how to solder joints, diagnose faults, repairs, dismantle, design, maintained and service electrical/electronics goods. Electrical/Electronics as a practical subject suppose to be taught by qualified technical teachers with a view to producing competent craftsmen that can face the challenge of that aspect of the economy. For effective performances in workshop practice teachers require a high degree of management skill and the master of the subject matter to be taught (Ogwo&Oranu, 2006).

According to Koontz et al (1983), management is the process of designing and maintaining an environment in which individuals, working together in groups, efficiently accomplish selected aims. This definition suggests that essentially, managers are vested with the responsibility of designing an internal environment for optimal performance within an organization. While designing the internal environment, managers- must also be responsive to the many elements of the external environment such as the general economic climate, technology, political, social and ethical factors that affect their area of operation. Cats-Baril and Thompson (1997) simply defined management as the act of keeping an organization alive and functioning to accomplish a series of tactical and strategic objectives.

Management is the process of planning, organizing, leading and controlling of the resources of an organization in the efficient and effective pursuit of specified organizational goals. Gullick (1993)

also defined management as the process of getting activities completed efficiently and effectively with and through other people. Consequently, identified management functions as planning, organizing, staffing, directing, and coordinating.
Planning is the most basic of all managerial functions. It bridges the gap from what is to what ought to be. It makes possible for things to occur that would not otherwise happen. A company's plan establishes what kind of business enterprise will be in, and its objectives for each. More detailed planning must then take place within each business unit; manufacturing, marketing, finance, human resource, among others. According to Dunod (1986) planning involves selecting missions and objectives of the enterprise and the actions to achieve them. It requires decision making that is, choosing from among alternative future courses of action. Furthermore, Koontz et al (1983) sees planning as an intellectually demanding managerial innovation in which the entrepreneur consciously plan courses of action and base his decision on purpose, knowledge and considered estimates. Unless plans are made events are left to chance. The planning function is very important and primary in electrical/electronics workshop. Every aspect of the workshop should be subject to planning in order to ensure safety and also to make the utmost use of resources, to promote knowledge, attitudinal change and skill acquisition. The development of good workshop plans enables the electrical/electronics teacher to take a hard look at the enterprise by examining its activities for the future, and to justify his decisions before they are implemented.

The managerial function of controlling is the measurement and correction of the performance of the activities of subordinates in order to make sure that enterprise objectives and plans devised to obtain them are being achieved. According to Koontz *et al* (1993) the control function consists in verifying whether everything occurs in conformity with the plan adopted, the instructions issued and principles established. The objective of control is to point out weakness and errors in order to rectify them and prevent recurrence. A prerequisite of control is a standard with which actual performance can be compared. If there is no standard, then there is no effective measure of attainment. Furthermore, Barret (2003) stated that the control function checks whether the plans are being realized and put into corrective measures where deviation or shortfall is occurring. Without effective controls, an electrical/electronics workshop will be at the mercy of all the internal and external forces that can disrupt efficiency and the electrical/electronics teacher will be unaware of it and therefore unable to combat such forces.

Skill, according to Okoro (2000), is a well established habit of doing something which is obtained through training and involves repetitive performance. It involves the acquisition of performance capabilities. Osuala (1995) also defined skill as physical and mental abilities that required high degree of coordination between the body and the brain. Skill improvement is therefore a process whereby teachers or instructors go for further training in order to improve and update their knowledge and skills. This implies that technical teacher skill improvement will enable each generation to function effectively and assist in meeting the needs of the society. Management skill is a personal characteristic that can contribute to high performance in management job. Schermerhon (2002) asserted that management skills are personal characteristics which help greatly in carrying out management tasks.

In other words, management skill for electrical/electronics workshop practices are those skills and habit of managing the workshop obtained through training and repetitive performance. For an effective workshop practice to take place in technical colleges, efficient management skill is required by the technical teachers. The skill improvement needs as regards management skill may differs between institutions in the urban centers and those in the rural areas. This is because, institutions in the urban center may have more influence of ministry officials due to proximity to supply of materials and equipment and even qualified and experienced electrical/electronics teachers. Also, electrical/electrical teachers in urban centers may be more exposed to opportunities such as

seminar, workshop and conference on management skills much more than those in rural areas. Male and female Electricity/Electronics teachers may differ in their opinion regarding control and coordinating skill improvement needs due to difference in gender. For the Electricity/Electronics teachers in technical colleges to perform credibly, and enable their product to remain efficient and competitive in constant state of flux and changes of the world and work and global workforce, they have to be updating their knowledge constantly.

Purpose of the Study

(i). Planning skill improvement needs of Electricity/Electronics teachers for improving workshop practice-in technical colleges.
(ii). Organizing skill improvement needs of Electricity/Electronics teachers for improving workshop practice in technical colleges.
(iii). Controlling skill improvement needs of Electricity/Electronics teachers for improving workshop practice in technical colleges.
(iv). Coordinating skill improvement needs of Electricity/Electronics teachers for improving workshop practice in terminal colleges.
(v). Directing skill improvement needs of Electricity/Electronics teachers for improving workshop practice in technical colleges.

Research Questions

(i). What are the planning skill needs of Electricity/Electronics teachers for improving workshop practice in technical colleges?
(ii). What are the organizing skill needs of Electricity/Electronics teachers for improving workshop practice in technical colleges?
(iii). What are the controlling skill needs of Electricity/Electronics teachers for improving workshop practice in technical colleges?
(iv). What are the coordinating skill needs of Electricity/Electronics teachers for improving workshop practice in technical colleges?
(v). What are the directing skill needs of Electricity/Electronics teachers for improving workshop practice in technical colleges?

Methodology

Survey research design was used for the study.The study was carried out in Niger State Technical Colleges. The population for the study comprised all the Electricity/Electronics teachers in the technical colleges of Niger States. There are 30 electrical/electronic teachers. The instrument was administered to the respondents by the researcher through personal contacts and with the help of three research assistants. Copies of the questionnaire administered to the respondents were collected back, where that was not possible, a return journey was made after one week for that purpose. A 100% returned rate was achieved.For analyzing the research questions, mean, and standard deviation were used. Therefore any item on management skill that obtain mean score of 2.50 and above was regarded as needed whereas any item with a mean score below 2.50 was regarded as not needed.The hypotheses were tested using the t-test. If any item obtains a t - calculated value greater than the t-table value, the null hypothesis was rejected whereas if an item obtain t-calculated value less than the t-table value, the null hypothesis was accepted. The hypotheses was tested as 0.05 level of significance.

Results

Research Question 1

What are the planning skill needs of electricity/electronics teachers for improving workshop practice in technical colleges?

Table 1: Mean responses on the planning skill needs of electricity/electronics teachers for improving workshop practice in technical colleges

S/N	Item	Mean	SD	Decision
1.	Plan lesson for effective workshop practice	2.61	0.38	Needed
2.	Provide materials for use in the workshop	3.10	0.52	Needed
3.	Plan activities based on stated objective in the workshop	2.90	0.44	Needed
4.	Involving others for effective workshop practice	2.77	0.60	Needed
5.	Knowledge of workshop safety	3.10	0.70	Needed
6.	Involve students in contributing to their attainment of the overall objectives of practical class in the workshop	3.75	0.90	Needed
7.	Plan effectively for tool storage facilities	3.25	0.65	Needed
8.	Plan to ensure effective workshop management timetable for classes	3.55	0.71	Needed
9.	Plan for practice, development and growth	2.95	0.38	Needed
10.	Plan for effective management of workshop resources	3.07	0.44	Needed
11.	Plan for effective workshop practice to be undertaken in the workshop	2.80	0.41	Needed
12.	Plan for uncertainties they may occur during workshop practice	3.30	0.65	Needed
13.	Plan for strength and weakness of the workshop	2.60	0.30	Needed
14.	Plan for identifying workshop practice procedure	2.55	0.40	Needed
15.	Plan for identifying problems in the workshop	2.90	0.37	Needed
16.	Plan for identifying progrmmes relating to workshop practice	3.10	0.50	Needed
17.	Plan for specific practices to be carried out in the workshop	2.25	0.63	Needed
18.	Plan for safety of lines and material resources	3.45	0.77	Needed
19.	Provide First Aid Box	3.65	0.80	Needed
20.	Plan to avoid workshop accidents	3.79	0.88	Needed

Table 1 indicates that the respondents need planning skill for improving workshop practice in technical colleges. Two items 8 and 20 are highly needed, 11 items are needed while six items are Needed.

Research Question 2

What are the organizing skill needs of electricity/electronics teachers for improving workshop practice in technical colleges?

Table 2: *Mean responses of respondents on the organizing skill needs of electricity/electronics teachers for improving workshop practice in technical colleges*

S/N	Item	Mean	SD	Decision
21.	Arrange equipment and tools for easy access in the workshop	2.65	0.37	Needed
22.	Arrange students into groups for effective workshop practice	2.70	0.40	Needed
23.	Apply standard common code of safety practice	3.10	0.63	Needed
24.	Manage workshop resources effectively	2.95	0.44	Needed
25.	Select instructional materials	3.40	0.81	Needed
26.	Organized instructional materials for effective usage during	3.25	0.70	Needed

	workshop practice			
27.	Apply instructional materials	3.30	0.68	Needed
28.	Apply Classroom management	3.05	0.60	Needed
29.	Build confidence in students through training a recognition and counseling	3.50	0.75	Needed
30.	Develop structure that provides for student's growth and challenges in the workshop	2.95	0.53	Needed
31.	Supply students with adequate resources to fulfill their responsibilities in the workshop	2.55	0.30	Needed
32.	Make students work while giving them help when needed	3.15	0.65	Needed
33.	Make students know what is to be done and the result that is expected	2.05	0.27	Not Needed

Table 2 shows that the respondents needed nine of the skills and Needed three of these skills and do not need skill number 33.

Research Questions 3

What are the controlling skill needs of electricity/electronics teachers for improving workshop practice in technical colleges?

Table 3: Mean responses of respondents on the controlling skills needs of electricity/electronics teachers for improving workshop practice in technical colleges

S/N	Item	Mean	SD	Decision
34.	Establish goals and standards for practical class	2.95	0.60	Needed
35.	Monitor results of workshop practice and compare them to establish standards	2.25	0.31	Needed
36.	Ensure resources are effectively utilized	3.10	0.55	Needed
37.	Prevent accident in the workshop	3.50	0.75	Needed
38.	Evaluate different work methods such as installation	3.20	0.60	Needed
39.	Evaluate different tools and equipment in the workshop	2.30	0.44	Needed
40.	Evaluate different conditions of work	2.80	0.58	Needed
41.	Estimate and allocate costs	2.14	0.30	Needed
42.	Determine when and if a problem arises	2.30	0.36	Needed
43.	Avoid wastage of resources in useless or inefficient operation	2.05	0.27	Not Needed
44.	Focus attention in meeting performance criteria	2.85	0.50	Needed
45.	Meet up with quality standard	3.60	0.80	Needed
46.	Encourage the action necessary to maintain performance	2.90	0.65	Needed
47.	Develop control system that will put out impending problem	3.15	0.72	Needed
48.	Take corrective action	3.10	0.68	Needed

Table 3 above shows that the respondents needed items 34, 36, 37, 38, 45, 47 and 48, while the respondents Needed items 35, 39, 40, 41, 42, 44, and 46, and 43 and do not need item 43.

Research Question 4
What are the coordinating skill needs of electricity/electronics teachers for improving workshop practice in technical colleges?

Table 4: Mean responses of respondents on the coordinating skill needs of electricity/electronics teachers for improving workshop practice in technical colleges

S/N	Item	Mean	SD	Decision
49.	Proficiency in the formulation of goals of workshop practice	1.35	0.44	Not Needed
50.	Adhere to given objectives	3.05	0.50	Needed
51.	Act in order to make students comply with laid down proceeding during workshop practice	2.85	0.57	Needed
52.	Create mental process to acquire knowledge on the situation	1.50	0.30	Not Needed
53.	Create choice procedure	2.45	0.40	Needed
54.	Selection alternative course of action from available alternatives	2.10	0.38	Needed
55.	Create implementation procedures	2.90	0.46	Needed
56.	Process of making good use of electricity/electronics practice	3.25	0.60	Needed
57.	Process of making good use of electricity/electronics practice	2.70	0.44	Needed
58.	Coordinating and encouraging note taking	1.40	0.25	Not Needed
59.	Discourage truancy	2.25	0.43	Needed
60.	Coordinating the project to be carried out in the workshop	3.40	0.64	Needed
61.	Coordinate staff and students in the workshop	3.25	0.60	Needed

Data presented in Table 4 above shows that the respondents needed coordinating skill for improving workshop practice in items 50, 51, 56, 60, and 61. The respondents Needed these skills in items 53, 54, 57, and 59 while items 49, 52, and 58 are not needed.

Research Question 5
What are the directing skill needs of electricity/electronics teachers for improving workshop practice in technical colleges?

Table 5: Mean responses of respondents on the directing skill needs of electricity/electronics teachers for improving workshop practice in technical colleges

S/N	Item	Mean	SD	Decision
62.	Focus on group process	3.15	0.69	Needed
63.	Set-up group work	2.70	0.47	Needed
64.	Create the act of inducing compliance	2.60	0.39	Needed
65.	Create the exercise of obeying others	2.85	0.44	Needed
66.	Persuade others to perform effectively	3.05	0.66	Needed
67.	Create an instrument of goal achievement	3.35	0.70	Needed
68.	Create effect of interactions	2.95	0.60	Needed
69.	Create differential roles	1.40	0.30	Not Needed
70.	Initiation of structure	2.10	0.40	Needed
71.	Occupational achievement initiative	3.20	0.62	Needed
72.	Ability to identify self actualization	3.10	0.58	Needed

73.	Supervise others	1.60	0.29	Not Needed
74.	Direct Others	1.90	0.30	Not Needed
75.	Keep channel of communication open	2.05	0.40	Not Needed

Table 5 shows that the respondents needed five directing skills for improving workshop practice. The respondents Needed five skills while four skills are not needed.

Discussion of the findings

The findings of this study with regard to planning skill needed for improving workshop practice in technical colleges revealed that the respondents need planning as it is the bedrock on which all other managerial skills are laid. Planning involves the development of strategy and procedure require for effective realization of an entire plan. This in conformity with the definition of Nwachukwu (1998) who stated that planning involves the establishment of objectives, strategies to achieve the objectives and step-by-step determination of the activities and resources necessary to achieve them.Planning especially of a workshop such as that of electricity/electronics requires carefulness in the preparation of facilities that should be put in place.The environment, the workshop building, the ventilation, lightening, water supply, stable electricity, taking materials/facilities and many others. All necessary materials need to be put in place. Knowledge of the workshop safety is very important. Postcards that carry warning messages and cautions need to be placed at strategic positions in order to reduce the danger of naked wires or leaving points that should be put-off after use. Effective management of the time allocated for the practical class is also important and opportunity should be given to students with encouragement to explore their potentialities so that they can attain the overall objectives of the practical class (Obi, 2009). Storage facilities are very essential in electrical/electronics workshop. This is to ensure that tools and equipment are kept clean and stores after every practical class. In a study on workshop practice, Usman (1992) observed that safety plays a key role in a practical workshop class. Tools like screw drivers, pliers and many others can cause spark when brought into contact with naked wire and one may receive shock. Electrical/electronics workshops in today's dynamic times are facing changes in ever-more-complex technologies (Henry, 2003). These, according to Henry include the uncertainties of a noble economy, technological changes and the sheer cost of investments in the purchase of new tools and equipment and related managerial challenges of modern workshops. Good planning of workshop according to Ogwu&Oranu (2006) improves focus and flexibility. This means that an electrical/electronics workshop with focus knows what to direct students on and how to accomplish the objective enshrined in the curriculum. An electrical/electronics workshop with flexibility is willing and able to change and adopt to shifting circumstances and operate with an orientation toward the future rather than the past or present.

The findings of this study with regard to organizing skill needed for improving workshop practice in technical colleges revealed that the respondents need organizing skill because it is a management function that determines the best structure that will optimize the utilization of an organization's resources. Usman (1992) stated that organization is a means of achieving the best result from concerted effort. It is organisation that determines the type of people required and their relationship in a formal set up like an enterprise for example, on an electronics workshop, different sections compliment the efforts of the other and at the end a final product such as radio transistor. As one of the basic functions of management, organizing, involves the creation of a division of labour. Schermerhorn (2000) explained that organizing is a process arranging people and other resources to work together to accomplish a goal. In an electricity/electronics workshop, a common standardized code is adopted in order to observe safety practices, organize teaching materials logically and sequentially and by so doing, confidence is built in the students, they face challenges and grow with them to be equipped to make abstract thinking positively. Once plans are created, Schermerhorn (2000) explained, the teachers task is to see to it that they are carried out (in an

electricity/electronics) workshop. Given a clear mission, core values, objectives and strategy, organizing begins the process of implementation by clarifying jobs and working relationships. It identifies who is to do what, who is in charge of whom, and how different people and parts of the workshop relate to and works with one another. All this, of course, can be done in different ways. The strategic challenge to the teacher is to choose the best organizational form to fit the situation.

The realities of a global economy, according to Storm (1999) demands strategies driven by hyper competition are putting increasing pressure on electricity/electronics teachers. The demands are for more speed to market, greater customer orientation, constant productivity improvements, and better technology utilization which will equip students with the dynamism of the current technological challenges.

The findings of this study with respect to controlling skill need of electricity/electronics teachers for improving workshop practice in technical colleges revealed that the respondents need controlling skill because it is a yard stick for measuring performance and taking action to ensure desired results. The teacher can use it to establish goals and standards for practical class. Controlling as an aspect of management ensure that plans are fulfilled and that actual performance meets or surpasses objectives.

Henry (2003) stated that the foundation of control is information. This shows that facts that reinforce what to do give one clues about how to respond to change and where to spend the resources. Facts, well defined, prevent accidents in the workshop, evaluate different work methods, meet up with quality standards and are capable of developing a control system that will reduce any impending problem in the workshop. Controlling sees to it that the right things happen in the right way, and at the right time. Schermerhorn (2000) stated that controlling ensures that the performance contributions of individuals and groups are consistence with organizational plans. It also helps ensure that people comply with organizational policies and procedures. This means that electricity/electronics workshop needs to set up standardized policies that direct the activities of the workshop towards the realization of the objective of the practical lesson. It is the duty of the electricity/electronics teacher to build in the students the spirit of self control because, as observed by Henry (2003) it emphasis encourages participation, empowerments and involvement in the workplace. Students are more likely to work harder when they participate fully in a practical class.

The findings of this study with respect to coordinating skill needs of electricity/electronics teacher for improving workshop practice in technical colleges revealed that the respondents need coordinating skill in order to increase the efficiency of electricity/electronics workshop. The many different individuals groups and subsystems in an organisation are each doing many different things at the same time. But even as they pursue specific tasks and objectives, their a compliments must add up to meaningful contributions toward the need of the organisation as a whole.

To achieve a common goal of increasing efficiency of the workshop.Management influences and determines the productivity of the subsystems. Nwachukwu (1999) observed that the managers attitude to work, his quest for excellence and his continual explanation of higher standards of excellence influences the performance of the subsystems. Effective coordination always give rise to overall performance of the whole system. Where individual goals and organizations goals are perceive to be the same, the result will be unity of purpose and a clear direction and path to progress.

Nwachukwu (1999) suggested that certain equipments of an ideal electricity/electronics workshop that will enable the students acquire the necessary skills; enough and adequate tools and equipment; enough ventilation; adequate lightening, formulation of procedures that run with the

objectives of the course; make students comply with the lay down procedures during workshop practice; observing safety rules; create an atmosphere that will make the acquisition of skill easy and interesting; select alternative course of action from available alternative; good supervision while the students are carrying out the practical's; let students make comparisons between the practices in industry and the workshop; coordinate the project to be carried out in the workshop; design an evaluation procedure to access students performance. A well coordinated electricity/electronics can guide and integrate efforts within a large workshop.

The complexities and uncertainties in today's environments are putting pressure on workshop mangers to redesign their coordinating strategies in order to achieve efficiency. Electricity/electronics teachers need to direct the minds and attention of students to measurement and precision during practical class. These aspects, among others, are playing key roles in today's dynamic world of technology, measurements must be accurate enough to spat significant differences between what is really taking place and what was originally planned to be carried out in the workshop. Most failures recorded with students of electricity/electronics are tie to improper coordination.

The findings of this study with respect to directing skill need of electricity/electronics teachers for improving workshop practice in technical colleges revealed that the respondents need directing skill because it a crucial, complicated and problematic aspect of management, which involve given order and the need for the order to be respected, and obeyed. Schermerhorn (2002) stated that directing involve given order to human resources that are to make use of physical resources available to achieve organizational goals. The complexity of the function of a manager couple with the individuals with different backgrounds make leadership difficult and more difficult area which is directing the mind and thinking of these individuals to respond to the yarning and aspiration of the laudable objectives of the organisation. An electricity/electronics workshop teachers need to study carefully and understand the complexity of the background of these students so that he can still confidence in them, promote consciousness, promote open communication (especially where they find difficulty, they can ask questions), encouse respect for teachers and within themselves, encourage the skill of high level precision in practical work and appreciation for the worth of the professionalism. A leader inspires or induce workers to work harder to achieve the objectives of the organisation the electricity/electronics teachers have the duty to inspire the students by creating the environment and atmosphere that will encourage them so acquire the necessary skills so as to be good ambassadors of not only the school but specifically of the teacher who guided and directed them during their practical classes.

Conclusion

This study examined that workshop practice was not properly coordinated due to lack of management skills of the electricity/electronics teachers in technical colleges. The electricity/electronics teachers have to be adequately prepared to meet the challenges in future of workshop practice management. The management skills possessed by the electricity/electronics teachers are inadequate to manage workshop practice in technical colleges. It is therefore concluded that the responsibility of training the electricity/electronics teachers in workshop practice management be with the identified management skill to form the fundamentals of planning, organizing, controlling, coordinating and directing of workshop instruction in technical colleges in Niger , Niger and Niger States.

Recommendations

(i) Enough materials should be provided by the government for use in the workshop.
(ii) First Aid Box in the workshop should be provided by school administration to enable first aid treatment in the event of accident.

(iii) Effective planning should be made for tools and facilities storage in the workshop.
(iv) Management and growth of students should be for planned by the school authority.
(v) Apply common standards code for safety practice
(vi) Workshop resources should be managed effectively
(vii) Goals and standard for practical class should be established by school administration.
(viii) Students should be able to comply with laid down procedures during workshop practice.
(ix) The project to be carried out in the workshop should be properly coordinated by the electricity/electronics teachers.

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