

CRITICAL ADMINISTRATIVE COMPETENCES REQUIRED FOR EFFECTIVE ADMINISTRATION OF TECHNOLOGY AND VOCATIONAL EDUCATION IN NIGERIA

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ABSTRACT: *This study investigated the most critical administrative competences required for effective administration of technology and vocational education (TVE) in Nigeria. Two research questions and two null hypotheses guided the study. The research design adopted was descriptive survey. The population of the study was 52 respondents from Enugu and Ebonyi States of Nigeria. The population consisted of 13 TVE lecturers and 04 TVE technologists from Enugu State University of Science and Technology; 22 TVE lecturers and 13 TVE technologists from Ebonyi State University. No sampling was carried out because the population was not too big to be studied. The instrument for data collection was structured, validated and reliable questionnaire. The research questions were answered with mean and standard deviations while, the hypotheses were tested with student t-test statistic at 0.05 level of significance. Fifty critical administrative competences were found to be required for effective administration of technology and vocational Education (TVE) in Nigeria. Thirty one of the findings were for human resources administrative competences while nineteen were for TVE material resources administrative competences. Five recommendations were floated of which one of them was that Nigerian government should train both old and young TVE administrators to acquire the found fifty critical administrative competences required for the eradication of administrative malady among TVE administrators.*

KEYWORDS: Critical, Administrative Competence, Technology Education, Vocational Education Administrative Malady, TVE Human Resources, TVE material Resources.

INTRODUCTION

Administrative competence was defined as the ability of an administrator to perform his duty very well (Hornby, 2015). On a general note, Gove (1993) defined competence as the quality or state of being functionally adequate or having knowledge, skills or strength for a particular duty or assignment. It implies that an individual has acquired the knowledge, skills, attitude and judgment which is required in order to perform successfully at a specified proficiency level in a given task or job. According to Okafor, Orusha & Nwoye (2014) competence is the successful performance of a task through the use of knowledge, skill, attitude and judgment as required for a specified proficiency level in any given work situation. On his own Mulder (2001) defined competency as the ability to do something successfully or efficiently with little or no mistake. It is the ability of an individual to perform a job expertly. On the other hand, competency is a measurable and observable effective and efficient skills, abilities and behaviours exhibited by an individual while performing a job. Robison and Sparrow (2007) reported that competency involves sufficiency of knowledge and skills that enable someone to act in a wide variety of situations. Hence competency is the application of all that one knows and can do, which directly differentiate him as being superior to every other person. Elom,

Mongugwa and Asogwa (2014) states that competence is a context based concept whereby every definition floated must reflect the situation or circumstance or task which necessitated it. Hence in the administration and supervision of technology and vocational Education, competency is always associated with the attributes or characteristics of a good administrator who is capable of performing all TVE administrative tasks effectively and efficiently with the highest level of knowledge and skills. Administrative competence therefore includes all the related knowledge, skills, abilities, exceptional good characteristics, and attributes that inform administrator's good job performance.

These sets of context-specific qualities are positively correlated with superior job performance and can be used as standards against which to measure job performance as well as to develop, recruit and hire employees or appraise an administrator. Competency is the sum total of skills, knowledge and attitudes manifested by an administrator which distinguish him from every other person. It is an underlying characteristics of an individual which is usually related to effective or superior task performance (Boyatzis, 1982). According to Armstrong (1999) competence is the act of displaying a high level of skills or tactical disposition of one's capacity to perform a job or task excellently at a very high standard and output. These high standards and outputs are what other expert's rate and assign special numbers or alphabets in their order of magnitude or excellence during the period of indexing.

The process of indexing yields an index number for each criterion or factor, signifying how critical the assessors perceive such a factor or criterion to be in actual sense. Hence, Hornby (2015) simply asserted that a critical factor is a factor viewed to be of extreme importance because several future situations will be affected by its crucial significance or great value. Critical administrative competences of technology and vocational education (TVE) administrators are therefore the discrete elements of their intentions, propositions and actual activities involved in the day to day planning, organizing and running of TVE programmes. Administrator is person who administers the affairs of an organization subject to diversity of some hindering or enhancing factors in the administration process. According to Peretomode (1996) administration is the process of working with and through others to efficiently accomplish organizational goals. It is the art and science of co-ordinating and organizing human and material resources towards the attainment of predetermined objectives.

Administration can also be defined as the art and science of getting things efficiently done through effective decision-making with greater emphasis on the input resources of an organization or institution (UNESCO, 1984; Akpan, 1995 and Ekuma, 2008). Technology and vocational Education (TVE) administration is therefore the science and art of systematic arrangement and coordination of human and material resources for effective, efficient and functional teaching and learning of technology and vocational education course offerings in formal education system. The ability of the administrator to perform this administrative function to the letter defines his competency level on the job. Administrative competency is generally affected by a cloud of diverse factors ranging from trivial issues such as personality profile and dress-code to critical ones such as contrasting decision choice.

The problem of this study is that among TVE administrative system, there had never been an empirical evidence of these factors which do not only determine the competency level of any TVE administrator, but rather determine the general success or failure of any TVE programme. Consequently there had been incessant failure of TVE programmes at all levels in Nigeria due to administrative malady and persistent occupation of the TVE administrative seats by grossly incompetent administrators as a result of lack of empirically established factors that count in

TVE administrative competence. Hence, the general purpose of this study is to establish empirically the critical administrative competencies required for effective TVE administration in Nigeria. The significance of this study hinges on its ability to enhance the eradication of administrative malady among TVE administrators.

Research Questions

The following research questions were formulated to guide this study:

1. What are the critical human resource administrative competences required for effective administration of TVE in Nigeria?
2. What are the critical material resources administrative competences required for effective administration of TVE in Nigeria?

Hypotheses

The following null hypotheses were formulated to guide this study and tested at 0.05 level of significance

- Ho₁: There is no statistical significant difference between the mean responses of lecturers and those of technologists on the critical human resources administrative competences required for effective administration of TVE in Nigeria.
- Ho₂: The mean responses of lecturers and technologists will not be statistically different on the critical material resources administrative competences required for effective administration of TVE in Nigeria.

METHODOLOGY

The research design adopted for this study was descriptive survey. Area of the study was Enugu State and Ebonyi State of Nigeria where technology and vocational Education (TVE) is offered in the respective state Universities. A total of 52 respondents formed the population of the study comprising of 22 TVE lecturers and 13 technologists from Ebonyi State University, 13 lecturers and 04 technologists from Enugu State University of Science and Technology. No sampling was carried out because the population was not too big to be studied. The instrument used for data collection was a structured questionnaire developed by the researcher using a four-point response scale of highly required (4); required (3), rarely required (2) Never Required (1). Face validity of the instrument was established by three experts one each from TVE Department, Measurement and Evaluation Department, and the Department of Educational Foundation (Educational Administration Option). The result of the instrument trial-test was used to compute the internal consistency reliability of the instrument using Cronbach Alpha technique which yielded a coefficient of 0.98 which was considered adequate for the study.

The validated and reliable instrument was administered by hand with the aid of two research assistants, one per institution and retrieved after completion by the respondents, ensuring 100% return rate. Mean and standard deviation were used to answer the research questions while the student's t-test statistic was used to test the hypotheses at 0.05 level of significance.

RESULTS

The results of the data analysis are presented in the tables below in line with the research questions and hypotheses.

Research Question 1

What are the critical human resources administrative competences required for effective TVE administration?

Hypothesis 1

There is no statistical significant difference between the mean responses of lecturers and those of technologists on the critical human resources administrative competences required for effective administration of TVE in Nigeria.

The data and analysis results for Research Question 1 and Hypothesis 1 are presented below in the composite table 1 (see key)

Table 1: Mean, Standard Deviation and t-test Analysis of the Responses on the Critical Human Resources Administrative Competences Required for Effective TVE Administration.

S/N	Item Statement	\bar{X}_G (sd _G)	\bar{X}_t (sd _t)	\bar{X}_t (sd _t)	t-cal	Remark
1	Efficiency and expertise in decision making is a critically required human resources administrative competence.	3.76 (0.84)	3.69 (0.29)	3.82 (0.04)	0.91	RQ/NS
2	Efficient time management and ability to always meet critical deadlines is a critical human resources management competency index	3.67 (0.81)	3.75 (0.24)	3.58 (0.84)	0.89	RQ/NS
3	Ability to implement TVE policies against political interferences is a critically required human resources administrative competence	2.59 (0.79)	2.55 (0.54)	2.63 (0.72)	0.13	RQ/NS
4	Effective human resources planning is a critical human resources administrative competence.	3.05 (0.91)	3.00 (0.01)	3.09 (0.90)	0.12	RQ/NS
5	Efficient and effective human resources organization, control, allocation and division of labour are critical factors.	2.90 (0.74)	2.81 (0.23)	2.99 (0.73)	0.88	RQ/NS
6	Effective supervision of subordinates on critical tasks performance is a critical human resources administrative competence.	2.67 (0.76)	2.83 (0.45)	2.51 (0.24)	0.93	RQ/NS
7	Creative abilities and ideation are very critically required administrative competences.	3.10 (0.77)	3.01 (0.97)	3.18 (0.97)	0.96	RQ/NS
8	Excellent leadership abilities with good examples are critically required administrative competences.	2.54 (0.93)	2.63 (0.23)	2.45 (0.23)	0.79	RQ/NS
9	Ability to set attainable goals and good standards thereby avoiding failures are critical factors of administrative competence.	2.91 (0.86)	3.17 (0.34)	2.65 (0.83)	1.06	RQ/NS

10	Efficient communication skills and right approach to issues are critical human resources TVE administrative competence.	2.72 (0.58)	2.71 (0.66)	2.73 (0.58)	0.13	RQ/NS
11	High level of critical and analytic thinking is a critical human resources administrative competence.	2.51 (0.62)	2.70 (0.88)	2.22 (0.45)	1.12	RQ/NS
12	Efficient information management system is a mark of administrative competence.	2.96 (0.90)	3.05 (0.43)	2.88 (0.22)	0.88	RQ/NS
13	Ability to delegate functions, roles and duties efficiently is a required administrative competence.	2.73 (0.91)	2.82 (0.67)	2.64 (0.35)	0.91	RQ/NS
14	Transparent staff advisory and disciplinary system are critically required TVE administrative competence.	2.90 (0.79)	2.80 (0.36)	2.99 (0.34)	1.01	RQ/NS
15	Ability to motivate staff and students to put in their best is a critical mark of administrative competence.	3.06 (0.77)	3.00 (0.34)	3.11 (0.76)	0.96	RQ/NS
16	Ability to work cooperatively with diverse staff and students with high interpersonal relationship are critically required administrative competences.	2.58 (0.66)	2.65 (0.67)	2.51 (0.67)	0.83	RQ/NS
17	High capacity to adapt to prompt positive changes with all amount of personal willingness are critically required TVE administrative competence.	3.48 (0.61)	3.54 (0.65)	3.42 (0.61)	0.97	RQ/NS
18	Ability to encourage and boost students co-curricular activities are marks of administrative competence.	2.61 (0.81)	2.56 (0.46)	2.66 (0.84)	0.89	RQ/NS
19	High expertise in conducting students' academic evaluation without leakages and malpractice is a critically required TVE administrative competence.	3.36 (0.81)	3.52 (0.24)	3.20 (0.83)	1.01	RQ/NS
20	Ability to consistency exhibit financial prudence, transparency and accountability are very critical marks of administrative competence.	3.08 (0.81)	3.15 (0.41)	3.01 (0.16)	0.67	RQ/NS
21	Ability to efficiently manage stress and stressor agents are required administrative competences.	2.81 (0.91)	2.98 (0.40)	2.64 (0.94)	1.07	RQ/NS
22	Effective and unbiased staff evaluation is critically required administrative competence.	2.78 (1.13)	2.92 (0.36)	2.63 (1.13)	1.04	RQ/NS
23	Regular and effective staff appraisal and promotion systems are very critical marks of administrative competence.	3.06 (1.12)	3.00 (0.42)	3.11 (0.92)	0.86	RQ/NS
24	Consistent positive reward system and regular payment of salary/wages are critically required TVE administrative competences.	3.67 (0.90)	3.58 (0.20)	3.73 (0.22)	0.93	RQ/NS
25	Punctuality and dedication to work and official roles are critically required administrative competences.	3.89 (0.89)	3.99 (0.29)	3.79 (1.23)	0.91	RQ/NS

26	Ability to cooperatively perform the role of team player and general-manager is a mark of administrative competence.	3.15 (1.16)	3.10 (0.14)	3.19 (0.16)	0.99	RQ/NS
27	Ability to flexibly adapt to every apparent positive change is a required administrative competence.	3.67 (0.95)	3.73 (0.47)	3.61 (0.35)	0.83	RQ/NS
28	Ability to promptly assess risks and overtake their occurrence is a critically administrative competence.	3.06 (0.84)	3.11 (6.04)	3.01 (0.45)	0.97	RQ/NS
29	Constantly training and re-training of staff for higher duty performance is a critically required administrative competence.	3.17 (0.96)	3.00 (0.11)	3.34 (0.24)	1.03	RQ/NS
30	Efficient priority and agenda setting is a critically required TVE administrative competence.	3.16 (0.89)	3.10 (0.23)	3.23 (0.24)	0.86	RQ/NS
31	Efficient mentoring skills and mentees attraction are highly required TVE administrative competence.	3.16 (0.81)	3.31 (0.11)	3.01 (0.23)	1.07	RQ/NS

Key:

\bar{X}_G = Grand Mean for lecturers and Technologists responses ($N_G = 52$)

\bar{X}_l = Mean for lecturers responses ($N_l = 35$)

\bar{X}_t = Mean for Technologists Responses ($N_t = 17$)

Sd_G = Standard deviation for lecturers and technologists responses

Sd_l = Standard deviation for lecturers responses

Sd_t = Standard deviation for technologists responses

Df = Degree of freedom = $(35+17)-2 = 50$

t-table = 2.02 @ Df = 50

RQ = Required

NS = Not significant (Accept H_0)

S = Significant (Reject H_0)

Probability level = $P < 0.05$

Research Question 2

What are the critical material resources administrative competences required for effective TVE administration?

Hypothesis 2

The mean responses of lecturers and technologists will not be statistically different on the critical material resources administrative competences required for effective administration of TVE in Nigeria.

The data and analysis results for Research Question 2 and Hypothesis 2 are presented below in the composite Table 2 (see key).

Table 2: Mean, Standard Deviation and t-test Analysis of the Responses on the Critical Material Resources Administrative Competences Required for Effective TVE Administration

S/N	Item Statement	\bar{X}_G (sd _G)	\bar{X}_l (sd _l)	\bar{X}_t (sd _t)	t-cal	Remark
32	Efficient planning for adequate provision of instructional materials for teaching is a critically required administrative competence.	3.04 (0.99)	2.97 (0.21)	3.11 (0.93)	0.96	RQ/NS
33	Effective utilization of available instructional materials for teaching and learning is a critically required TVE administrative competence	3.07 (0.83)	2.90 (0.23)	3.23 (0.83)	1.03	RQ/NS
34	High skill and competency in instruction material selection for use are critically required TVE administrative competences.	3.64 (1.14)	3.54 (0.14)	3.73 (1.28)	0.89	RQ/NS
35	Proficiency in laboratory/workshop designs and facilities planning are critically required TVE administrative competences.	2.89 (0.98)	2.95 (0.45)	2.83 (0.54)	0.71	RQ/NS
36	Proficiency in safety practice skills observance and practice are very critically required TVE administrative competences.	3.02 (0.79)	3.10 (0.22)	2.94 (0.39)	0.89	RQ/NS
37	Ability to make students fully participate in every laboratory practical/demonstration sessions are required critical administrative competence	2.57 (0.69)	2.63 (0.13)	2.51 (0.49)	0.91	RQ/NS
38	Proficiency in materials production management is a required critical TVE administrative competence.	2.85 (0.96)	2.79 (0.26)	2.90 (0.90)	0.79	RQ/NS
39	Ability to improvise rapidly important unavailable materials/equipment is a required critical TVE administrative competence	3.53 (0.86)	3.47 (0.56)	3.59 (0.89)	0.96	RQ/NS
40	Efficient and effective execution of practical product and process evaluation are required critical TVE administrative competences.	2.54 (0.78)	2.59 (0.23)	2.49 (0.43)	0.93	RQ/NS
41	Resourcefulness and highly venturistics entrepreneurial skills and abilities are critical TVE administrative competences.	3.39 (0.97)	3.06 (0.78)	3.71 (0.72)	1.16	RQ/NS
42	Efficient industrial technology education machines and equipment provision and utilization are critical TVE administrative competences	2.61 (0.98)	2.55 (0.23)	2.66 (0.45)	0.82	RQ/NS
43	Efficient workshop and laboratory organization and space allocation are required critical TVE administrative competences.	3.02 (1.06)	3.02 (1.01)	3.00 (1.17)	0.10	RQ/NS
44	Ability to provide and ensure efficient library services are required critical TVE administrative competences.	3.00 (0.69)	3.14 (0.73)	2.85 (0.59)	1.53	RQ/NS
45	Capacity to control and reduce TVE instructional materials wastage is a very critically required TVE administrative competence.	3.89 (0.71)	3.94 (0.79)	3.83 (0.62)	0.84	RQ/NS

46	Ability to initiate, promote and sustain efficient store and record keeping are required critical TVE administrative competences.	3.10 (0.67)	3.06 (0.68)	3.14 (0.67)	0.49	RQ/NS
47	Proficiency in ICT data management is a required critical TVE administrative competence.	3.81 (1.03)	3.74 (1.18)	3.87 (0.72)	0.64	RQ/NS
48	Ability to use internet and other networking systems efficiently are very critically required TVE administrative competences.	3.22 (0.76)	3.14 (0.77)	3.29 (0.73)	0.74	RQ/NS
49	Ability to ensure security of lives and properties in TVE workshops are very critically required TVE administrative competences.	3.05 (0.87)	3.09 (0.85)	3.00 (0.92)	0.35	RQ/NS
50	Ability to promote healthy school community relationships and efficient neighbourhood policing are very critically required TVE administrative competences.	3.96 (0.74)	3.93 (0.73)	3.99 (0.79)	0.27	RQ/NS

(See key under table 1)

Findings of the study

The findings of this study based on the analyzed data are summatively presented as follows:

1. Thirty one critical human resources administrative competences required for effective TVE in administration were identified.
2. Nineteen critical material resources administrative competences required for effective TVE administration were identified in this study.

Discussion of findings

The findings of this study indicated that all the listed human resources administrative, competences in the questionnaire items were critically required for effective administration of technology and vocational Education (TVE). In the same vein, all the null hypotheses were accepted because there were no statistical significant differences between the mean responses of TVE lecturers ($N_1 = 35$) and TVE technologists ($N_t = 17$). The competence that had the highest mean response of 3.89 was the ability to consistently exhibit punctuality and dedication to work and official roles as presented in item 25. This competence ensures that the administrator assumes the position of a general manager and supervisor whose presence is seen at every nook and cranny of TVE institution. Such administrator adopts the strategy of “management by walking about” making sure that everything is done aright/correctly. The second competence in mean ranking was the ability to exhibit efficiency and expertise in decision-making, with mean of 3.76 as presented in item number one. Efficiency and expertise in decision-making are marks of TVE administrator’s effectiveness. According to Igboke (2010) the success or failure of any TVE programme depends on TVE administrator’s effectiveness and competences. These competences on human resources administration 31 of them combine the affairs of staff, students and school-public relations which are very critical to the development and progress of every TVE programme.

The study also showed nineteen critical TVE material resources administrative competences required for effective administration and supervision of technology and vocational education (TVE). Ability to promote healthy school-community relationship and efficient

neighbourhood policing was rated highest in this group with a mean of 3.96 and standard deviation of 0.74 as presented in item 50. This competence was highly noted because it eliminates school plant theft, vandalism, wastage and misuse due to hostile hosting community which the administrator could not relate well with including arrangement for neighbourhood policing and vigilante operation. This item agreed with the next item (45) following the first item with \bar{X}_G 3.89 and $Sd_G = 0.71$ representing competency for controlling and reducing TVE instructional materials wastage. Both items and competences agreed with Iyare (2014) who declared that TVE prudent management implies reduction of wastage and effective usage of available material resources towards achieving the set goals.

The other required competences found in this study on material resources administration are very critical for the survival of any TVE programme irrespective of their mean ratings. The results of the tested hypotheses indicated that there was no significant difference between the mean responses of lecturers and technologists on nineteen critical TVE material resources administrative competences required for effective TVE administration. The implication of these findings was that all the competences were critically required for effective administration of any TVE programme. None of them is worthy of omission or deleting as perceived by both lecturers and technologists.

CONCLUSION

This study investigated the critical administrative competences required by TVE administrators for effective administration of technology and vocational education programme. Based on the responses of the respondents and the analysis result, there was as an evidence that TVE administrative competences are innumerable both tangible and intangible; trivial and those with high value or worth. The conclusion drawn here is that this study had established empirical evidence of fifty critical competences required by TVE administrator for effective performance of their job. Hence forth these critical ones can be used as criteria for the future assessment of TVE administrators both old and young ones in order to reduce the current wave of administrative malady among TVE administrators.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made:

1. Nigerian government at all levels should train both old and young TVE administrators to acquire these fifty critical administrative competences to reduce administrative malady.
2. Hence forth Nigerian government should establish competent-task-force that must assess every TVE administrator using these fifty critical competences as basic criteria for new appointment or retaining their jobs.
3. Nigerian government should provide conducive environment and all the necessary resources for a competent TVE administrator to flourish and perform at optimum capacity.

4. Nigerian government and all the constituted authorities should be bold enough to lay off all incompetence TVE administrators who consistently failed competency tests no matter who is involved.
5. Outstanding, proven and constantly, competent TVE administrators should be openly/publicly rewarded with national honours-awards to encourage others to be competent and eradicate administrative malady.

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