
**CONSTRAINTS TO FUNCTIONAL HUMAN RESOURCES DEVELOPMENT IN
ELECTRONICS TECHNOLOGY EDUCATION IN EBONYI STATE OF NIGERIA**

By

Dr. JAMES E. Ogbu
Department of Technology and Vocational Education
Ebonyi State University, Abakaliki
ekumajo@gmail.com **08062408778**

Abstract

Functional electronics technology education human resources development is a cardinal step toward general technological development in any country in this electronic age. Hence, this study investigated the constraints to functional electronics technology education human resources development in Ebonyi state of Nigeria. Two research questions and two research hypotheses guided the study and the research design adopted was descriptive survey. The population of the study comprised all the electronics technology educators (lecturers) and non-academic staff (technologists) of electronic Technology Education totaling 18 only. Due to this few number of electronics personnel, there was no sampling. Instrument for data collection was questionnaire. Data collected was analyzed using mean and standard deviation to answer the research questions while t-test statistic was used to test the hypotheses at 0.05. level of significance. The findings among others, revealed that lack of in-service training, negative reward system, discouraging condition of service and discriminatory employment opportunities against qualified electronics educators and personnel are the constraints to functional electronics technology education human resources development in Ebonyi state of Nigeria. It was then recommended that Ebonyi state government should summarily eradicate all the constraints to functional human resources development in electronic technology education in Ebonyi State of Nigeria.

Introduction

Human resources in electronics technology education can be defined as the totality of men and women that are involved in the business of electronics technology education. The concept human resources even include children of both sexes and young adults such as pupils or students. However, for the purposes of this study, emphasis was placed on the term human resources as defined by Olaitan (1997) to include administrative staff, academic staff, lecturers, teachers, instructors, non-instructional staff, technologist, technicians, technical assistants, library staff, guidance and counseling staff and other staff members that require progressive development for enhanced job performance. Hence pupils/students' personnel development was not in the focus of this study whereas staff personnel aspect of human resources development was emphasized.

According to Akpan (1995) continuous human resources development is very essential because educational knowledge is fluid and work-place experiences are dynamic, requiring constant up-date of pre-service knowledge and experiences on the part of personnel.

Knowledge acquired during the pre-service years may be quickly out-dated due to new and constantly increasing knowledge, techniques, machines, equipment, products and other global forces. Hence, professional growth otherwise known as functional human resources development should be a cardinal programme of any organization or institution. Professional growth therefore involves the provision made by a school system or any organization for the improvement of the job performance of school personnel from employment date through his service years to retirement date. It could be through in-service training, retraining, conferences, vacation course, part-time courses, workshops, sandwich programmes, seminars and field-trips. According to Akpan (1997) for Nigeria to sustain her industrial and technology sector of the economy, human resources development especially highly skilled technological manpower must form the principal pivot. For a successful industrial development and revolution in this electronic age and globalization, the starting point of human resources development in any country or state should be in the areas of electronic technology education.

Electronic technology education is an aspect of industrial technology education offered at tertiary level of education for the development and production of highly skilled manpower in the field of electronic engineering technology with educational biases. Anaemena (2000) defined electronics as a physical science, specifically a branch of physics and astronomy which deals with the study of the properties and behaviours of electrons under all conditions and applications. The conditions could be static as in electrostatics, or motion as in electric current, thermally agitated as in vacuum tubes or solid state as in semi-conductor devices or other conditions. It is mandatory for all personnel to have clear understanding of these conditions to enable them cope with the diverse applications of electrons such as in telecommunications, photo-electric devices, remote-sensing relays, light dependent resistors, computers, radios, televisions, radar, industrial drives, mass-production line control, guidance control systems for missiles, medical research, satellite industry and many others. Indeed electrons applications spans and permeates all academic disciplines and is important in medical science, all branches of engineering and every facet of the economy. It should be noted that it is because of the permeating characteristics of electronics that made this age to be named electronic Age, Globalized world, ICT- Age where we live with e-learning, e-banking, e-commerce and "e-anything".

After observing all these applications of electronics the world over, Anaemena (1999) asserted that there is hardly any industry that can be mentioned which does not depend on or apply electronics in some fashion. Unfortunately, this same electronics that holds the present modern civilization and future technological development is grossly neglected in Ebonyi state and indeed the whole Nigeria. In Ebonyi state, none of the technical colleges offer electronic craft studies in radio and television. The state university has no electronic engineering department. The federal university in the state has no electronic engineering department. The most famous electronic master craftman in the state who is even being patronized by the state government still depend on trail by error in most of his rendered services because of lack functional human resource development. The only electronic related course offering in the state is the electronic technology education aspect of Technology and Vocational

Education Department which is grossly hindered in progress due to a lot of factors among which is poor human resources development. Human resources development was defined by Honby (2001) as a process of enhancing work force progressive or gradual growth, advancement, maturity, efficiency and effectiveness in productive output. Human resources development is usually necessitated by rapid advancement and technological changes locally or globally with the accompanying rapid changes in human resources need.

The prevailing business and technological condition at any time determines the number and type of workers needed (Akpan, 1997). The worry and problem of this study is that the human resources involved in electronics technology education in Ebonyi state have not changed or advanced in quality, number or types for the past 12 years. The researcher is worried due to the dysfunctional level of some electronic educators and technologists in Ebonyi State. Some cannot teach their courses well, supervise students activities/projects and hence remained unpromoted from 1999 to date (EBSU Appraisal Committee, 2012). The question now is, how functional was the training that made them lecturers? Why can they not improve on the job after 14 years of service? What is the academic fate of students being taught or supervised by them? Hence, to avoid vicious circle of dysfunctional electronic technology education suspected to be caused by grossly constrained human resources development, there is urgent need for this study. Hence, the general purpose of this study was to determine the constraints to functional human resources development in electronics technology education in Ebonyi state of Nigeria.

Research Questions

The following research questions were formulated to guide this study.

1. What are the constraining factors to functional human resources development in electronics technology education emanating from government and policy maker?
2. What are the constraining factors to functional human resources development in electronics technology education emanating from the society and the school personnel?

Research Hypotheses

This study was guided by the following research hypotheses which were tested at 0.05 level of significance.

1. There will be no statistical significant difference between the mean responses of electronic technology educators and those of technologists on the constraints to functional electronics technology education human resources development in Ebonyi state caused by government and policy makers.
2. The mean responses of electronic educator/management personnel and those of none academic personnel on the constraints to functional human resources development in electronics technology education caused by the general society and school personnel will not be significantly different.

Methodology

The design of this study was descriptive survey. The area of the study was Ebonyi state of Nigeria. A total population of 18 electronic technology education personnel was used for the study. This population was made up of all the identified electronic technology educators (lecturers) being a total of 7, and non academic staff (technologists) of electronic technology education totaling 11 in number. Due to this few number of electronic technology education personnel, there was no sampling. Instrument for data collection was a face validated four-point scale questionnaire with a coefficient of stability 0.93. The questionnaire copies were administered by the researcher and one

research assistant directly to the electronic technology education personnel by hand and collected back from them. This ensured 100% return. However, one of the electronic technologists completed his own wrongly as observed during the coding period. Hence effective sample size was 17. Mean and standard deviation were used to answer the research questions cut-off mean was 2.50 while t-test statistic was used to test the hypotheses at 0.05 level of significance.

Results

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

Research Question I

What are the constraining factors to functional human resources development in electronics technology education emanating from government and policy makers in Ebonyi state of Nigeria?

Research Hypothesis I

There will be no statistical significant difference between the mean responses of electronics technology educators and those of technologists on the constraints to functional electronics technology education human resources development in Ebonyi state caused by government and policy makers.

The results to the analysis of data pertaining to research question 1 and research hypothesis 1 are all shown in Table 1 below.

Table 1: Mean Ratings, standard Deviation and t-test statistic of Responses on the constraints to functional Human Resources Development in Electronic technology Education caused by Government and policy Makers in Ebonyi state

S/N	Items Statement	Mean	SD	t-cal	Remarks
1.	Government unwillingness to establish electronic engineering department in Ebonyi state university is a principal constraint to development of functional electronics personnel.	3.43	0.25	1.11	AG NS
2.	Lack of Federal Government University with electronic engineering department in the state is a major constrain to the development of functional electronics personnel in the state	3.21	0.31	0.84	AG NS
3.	Government unwillingness to establish electronics department (R/TV) in any of the three technical colleges in the state is a major constraints to the development of functional electronic personnel in the state	3.41	0.22	0.62	AG NS
4.	State policy on appointment to high management positions is against electronic personnel and therefore, their development.	3.11	1.24	1.56	AG NS
5.	State overseas trainings are used to compensate politicians as against state needs and merits such as electronic personnel.	2.94	1.21	1.72	AG NS
6.	State policy only favours purchasing few computers for quack copy-and-paste operators as against the development of electronic personnel	3.14	0.19	1.43	AG NS
7.	Government refusal to understand that ICT should be electronics personnel driven is a major constraint.	2.75	1.40	1.36	AG NS
8.	Government refusal to send only the few electronics personnel in the state for in-service training since 1999 till date is a principal constraint.	2.67	0.81	0.97	AG NS
9.	Negative reward system, where people who render little or no useful service to state are paid more is a serious constraint.	3.20	1.34	1.22	AG NS
10.	Poor funding of electronic technology education programme in Ebonyi state is a principal constraint to functional human resources development in that area.	3.31	1.14	1.01	AG NS
11.	Government policy favour party-politics rather than technological development, human resources development and hard work or honest labour	3.53	1.12	0.84	AG NS
12.	Ebonyi state and indeed Nigeria is a consumer nation with no importance attached to technological and human resources development.	2.68	1.60	1.49	AG NS

Table 1 revealed that all the listed factors were agreed to be constraints to functional human resources development in electronic technology education as caused by Government and policy makers in Ebonyi State. There was no significant difference between the responses of lecturers and technologists. The highest indicated mean was 3.53 showing Government policy favoured party-politics rather than technological development, human resources development, hard work and honest labour.

Research Questions 2

What are the constraining factors to functional human resources development in electronics technology education emanating from the society and the school personnel?

Research Hypothesis 2

The mean responses of electronic educators and those of none-academic personnel on the constraints to functional human resources development in electronics technology education caused by the general society and school personnel will not be significantly different.

The result to analysis of data pertaining to research question 2 and

research hypothesis 2 are all shown in table 2 below.

Table 2: Mean Ratings, standard deviation and t-test statistic of Responses on the constraints to Functional Human resources Development in Electronic technology Education Caused by the general Society and School personnel

S/N	Items Statement	Mean	SD	t-cal	Remarks
1.	Negative attitude of Ebonyi general society towards hard-work and honest labour in the public sector is a serious constraint.	2.64	1.56	1.91	AG NS
2.	Disregard and Negative attitude of Ebonyi general society towards technology and vocational education is a major constraint to electronics personnel development.	2.95	1.381	1.66	AG NS
3.	The society sees electronic technology education as an inferior profession and go for other professions they think are superior thereby hindering human resources development in electronics technology education.	3.41	0.87	0.92	AG NS
4.	The society has no interest in a difficult study area like electronic technology education and this is a serious constraint.	2.84	1.74	1.86	AG NS
5.	Many Ebonyi youths prefer to run political evands and engage in tuggry for quick money than engaging in tasking job/profession such as electronic technology education and is a serious constraint.	3.38	1.10	1.23	AG NS
6.	Electronic personnel are poorly remunerated for their hard work hence they don't opt for further self sponsored training and development.	3.85	0.22	0.54	AG NS
7.	JAMB requirement for electronic technology education is difficult to meet by the members of the society that wish to study it and this is a serious constraint	3.12	1.46	1.37	AG NS
8.	The society sees electronic technology education personnel as poor and miserable members and therefore abhor such study/job or profession	3.61	1.27	1.73	AG NS
9.	Existing electronics technology education personnel have not significantly imparted on the society to enhance further personnel development in that area.	2.77	1.39	2.01	AG NS
10.	Corruption at low and high levels of the public sector is a serious constraints to electronic technology education human resources development.	3.74	0.25	0.66	AG NS
11.	Working conditions for electronics personnel in the state are too poor and therefore a constraint	3.58	1.41	1.75	AG NS
12.	Qualified electronic personnel are never given any deserving political appointment and this is a constraint	3.42	1.64	1.18	AG NS

Key:

N = 18; AG = Agree; NS = Not significant;

NEM = 7 Number of electronic Educators/management cadre personnel; Cut-off mean = 2.50;

NNA = 11 Number of None-Academic electronic personnel;

NU = 17 number used;

t-table = critical t-value = 2.12

t-cal = calculated t-value

df = Degree of freedom = 15 = (7 +10-2) and P < 0.05

Table 2 showed that all the outlined factors were accepted to be constraints by the respondents with the highest mean of 3.85 for poor remuneration of electronic technology personnel. The table also showed similar response pattern for both electronic technologists and educators.

Table 1 and 2 showed the presentation and results of data analysis for the whole study. Each research question was answered along

side with the corresponding hypothesis. The results revealed that all the items raised were in one way or the other constraints to functional human resources development in electronic technology education in Ebonyi state of Nigeria.

Summary of Findings

Based on the analyzed data, the following findings were made in this study.

1. The principal constraint to functional human resources development in electronic technology education in Ebonyi state is government unwillingness to establish enabling and relevant institutions/ departments since the creation of the state in 1996.
2. Party-politics and government insensitivity to technological development are among the critical constraints.
3. Lack of the provision for in-service training for the serving electronic technology education personnel in the state is a major constraint.
4. The negative reward system in the state a or serious constraint to functional human resources development in electronics technology education in Ebonyi state of Nigeria
5. Very poor and discouraging condition of service for electronic technology education personnel in the state is a constraint.
6. Discriminatory employment and political/administrative appointment against qualified electronic educators are discouraging constraints.
7. Disregards and negative attitude of Ebonyi general society towards technology and vocational education is a major constraints to electronics personnel development

Discussion

The findings of this study revealed that all the questionnaire items were agreed to by the respondents as constituting in one way or the other constraints to functional human resources development in electronics technology education in Ebonyi state of Nigeria. Out of the 24 questionnaire items, 12 of them addressed the constraints emanating from government and policy makers in EBonyi state while the remaining 12 presented the analysis results on those constraints caused by the society and the school personnel.

Critical among the findings was the revelation in item 6 in the second research question with the highest mean of 3.85 and standard deviation 0.22. The item stated that electronics personnel are poorly remunerated for their hard work, hence they don't opt for further self-sponsored training/re-training and development. This item 6 in table 2 has the lowest calculated t-value, meaning that most of the respondents were positive as also indicated

by the lowest standard deviation. This finding therefore agreed with Okorie (2010) who said that compensation of a human asset through salary capitalization and aggregation are determined by the knowledge, skills, abilities and competences endowed in that individual through training and re-training. Hence if the first training is not well compensated for, then, second training and re-training may not be deemed necessary by personnel. After all, Akuma (2008) declared that a worker is worthy of his wages as even stated by God in the Holy Bible.

Though this transactional equation and withdrawal of Okorie (2010) may seem right to the electronics personnel, yet Oliatan, Okeme and Amusa (2010) maintained that teachers and indeed every personnel need capacity building in other to improve their knowledge, capabilities, skills, competencies and attitudes. Hence the revelation of item 6 in table 2 is a dangerous trend showing that the state is already doomed and urgent deliverance action needed to ensure adequate human resources development especially in the area of electronics technology education.

Another critical finding worthy of brief discussion is in item 8 of Table 1 with mean of 3.67 and standard deviation of 0.81 with calculated-t-0.97. All these figures in the result showed general agreement that the government policy(s) that led to government refusal to send any of the electronic technology education personnel in the state for in-service training since 1999 till date is a principal constraints. This negates the standard laid down by Akuma (2008) whereby there should be a policy stating regular in-service, workshop and re-training programmes for staff. This harmful policy is reflected in several items in table 1 with their effects reflecting in table 2. In all these findings, the hypotheses were all upheld because there was no significant difference between the mean responses of electronic technology educators/management cadre and those of none-academic electronic personnel on the constraints to functional electronics technology education human resources development in EBonyi state of Nigeria.

Recommendations

Based on these findings of the study the following recommendations were made.

1. Ebonyi state government should as a matter of urgency introduce electronics craft studies (R/TV) in all her existing technical colleges to lay a foundation of electronically enlightened workforce

who can further be functionally developed.

2. The few electronics personnel in the state university should be encouraged, with improved remunerations and in-service trainings both locally and abroad to enable them face global electronics challenges and thereby

move the state and Nigeria forward technologically.

3. All the other constraints to functional human resources development in electronics technology education in Ebonyi state as identified in this study should be eradicated by the state government to ensure the technological development of the state.

References

- Akpan, R. J. (1995) Educational administration in Nigeria. Calabar: Executive Publishers.
- Akpan, V. C. J. (1997) Administration and supervision in vocational education. Uyo: Dorand Publishers.
- Akuma, E. (2008) Educational administration managerial issues and problems. Enugu: Celex Publishing Company.
- Anaemena E. I. (1999) Foundation of college Electronics. Enugu: Cheston Agency Ltd.
- Anaemena E. I. (2000) Vacuum tubes: The electronics of thermal agitation. Enugu: Cheston Agency Ltd.
- Ebonyi State University Appraisal (2012). Ebonyi State University Academic Staff Appraisal Report. Abakaliki: Registry Department.
- Hornby A.S. (2001) Oxford advanced learners, dictionary of current english. Oxford: Oxford University Press.
- Okorie, O. (2010) Accounting for human Assets: A strategy for enhancing human resource/organizational management. *Journal of business and vocational education* 1(1) 101-107.
- Olaitan, S. O; Okeme, I & Amusa, T. A (2010) Capacity building needs of teachers in the use of computer for effective teaching of agricultural science in colleges of Education in North central zone of Nigeria. *Nigerian Journal of curriculum studies* 17 (2) 235-243.
- Olaitan, S. O. (1996) Vocational and technical education in Nigeria-issues and analysis. Onitsha: Noble Graphic Press.