Asian Journal of Education and Training
Vol. 1, No. 2, 14-20, 2015
http://www.asianonlinejournals.com/index.php/EDU

Evolving Policy Initiatives for Effective Vocational Technical Education in North Central Zone, Nigeria

Danjuma A. Ombugus[1*] --- Francis Adams Angbre[2]

[1]Technical Education Department, College of Education, Akwanga, Nasarawa State, Ngeria
[2]Department of Agricultural Education, College of Education, Akwanga, Nasarawa State, Nigeria

Abstract

The study focused on evolving policy initiatives for effective Vocational Technical Education (VTE) on sustainable development. The study adopted a descriptive survey research design and was carried out in North Central Geopolitical Zone of Nigeria. The population for the study was 450 respondents (VTE teachers/lecturers, government officials, industrialists, and community members). Twenty one Policy Initiative items questionnaire were developed, validated and utilized to collect data for the study. Cronbach Alpha method was used in determining the internal consistency of the questionnaire items. The reliability of the items revealed coefficient of 0.82. The study found out that 21 items were regarded as major purposes / objectives of vocational technical education and were rated as initiatives for policy formulation. It was found out that there were no significant differences in the mean rating of the respondents at 0.05 level of significant. It was recommended that the findings in the study be utilized by government for vocational technical education policy formulation in the North Central Zone of Nigeria.

Keywords: Policy initiative, Effective, Vocational technical education, North central zone.

Contents

** Corresponding Author*

1. Introduction

Vocational Technical Education is a type of education recognized internationally to provide skills for youths, adults and disengaged workers for the purpose of empowering them for employment to enable them earn some worthwhile material benefits to meet their needs (Ugwoke *et al.*, 2013). In the same vein, vocational technical education is defined in F.G.N (2013) as that aspect of education which leads to the acquisition of practical skills as well as basic scientific knowledge. It is a type of education meant for able citizens of a nation to empower them with relevant skills they could use to make vital contributions to the economy of their society. Contributing to the meaning of Vocational Technical Education earlier, UNESCO (2012) stated that it is an integral part of general Education, a means of preparing people for occupational fields and for effective participation in the world of work, an aspect of life-long learning and a preparation for responsible citizenship, an instrument for promoting sound sustainable development and method of facilitating poverty alleviation. In this study Vocational Technical Education is regarded as a type of education that could help individual to give more to his/her nation economically than he/she is receiving from it.

In Oujer (2009) the author explained that Vocational Technical Education, though assumed to be vital to economic development but has been regarded as an inferior or second class type of education. The perception has accorded this important field a very low image, according to the author. In North Central States of Nigeria, Tilak (2012) reported that there are little or no research evidences on objectives /organization of vocational technical education to influence government policy in the area.

There are many secondary school graduates in the North Central Zone of this country that cannot obtain admission into higher institutions for further studies neither could they afford employment in the labor market because of lack of job skills. These graduates are trapped at the buffer zone between the boarder of secondary schools and higher education and can be regarded as academic refugees or drop outs that depend solely on hand outs from their parents and government for survival. Similarly, Olaitan (2011) stated that the population of the academic refugee camp continues to increase annually thereby creating undue pressure on the economy of the nation, that is the economy is given out more than it is receiving from the youths which is unhealthy for national economic growth and development.

Vocational and technical education is expected to salvage this situation but with the present image of VTE, it will be an uphill task to make it come to the rescue. Therefore, it must change in organization to accommodate unemployed secondary school graduates who are ready to learn but must be within the school system. A change in any type of education according to Ugbalu (2012) is more rewarding through Policy formulated based on research findings. Policy according to Okonze and Onuoha (2014) is a plan of action undertaking by government persons or groups to enable them accomplish an objective. In Jean (2011) policy is a government program of action. To the author, it stands for what government intends to do or achieve (goal) and how it intends to do it (implementation). In this study, policy initiative means important research findings to be considered by government for making policy in VTE. Initiatives are important new plans or processes identified in order to achieve a particular aim or solve a particular problem.

In Miller (2013) vocational technical education as operated today, served the interest of junior secondary graduates which is far below the academic status of the secondary school graduates. If this study is carried out to obtain information on objectives and organization of vocational technical education to accommodate the secondary school graduates easily, then the image of VTE will be improved and the unemployed secondary school graduates will have accommodation in technical college program for skill empowerment. For government, communities and industries to understand the objectives and respond positively towards re-organizing VTE, there is need for policy initiatives with research evidences supporting the economic worth of vocational technical education.

1.1. Statement of the Problem

In Nigeria, vocational technical education has been suffering from neglect because of the following:

The evidence supporting the economic worth of VTE has never been collected, analyzed and made open to policy makers to attract their substantial support to vocational technical education in education system below mono/polytechnics.

The few studies conducted on vocational technical education in higher institutions are by research trainees whose results were never made available to any government functionary, policy makers or consumers of vocational technical education. They end up in libraries and at times as publications in journals that serve the interest of the author rather than showing concern about the needs of government for developing policies that can promote vocational education towards empowering citizens for work.

There is no means of linking vocational technical education in this country with productive skills that resulted into the goods and services imported from foreign countries for people to consume. That is, there is no research evidence made available to policy makers and Nigerian society that vocational technical education skills were involved to produce most of the imported goods and services by host countries.

There is no concerted research effort to evaluate the present vocational technical education program, however low is the image to provide evidence to government that vocational technical education can help to sustain the economy to the status enjoyed by other developed countries that appreciate the importance of their VTE. The little information obtained on the importance of VTE to salvage the economy of our nation are those from international organizations such as UNESCO, F.A.O. and UNICEF under the umbrella of United Nations. The information available, according to Hawley (2013) only serve as guides to what a nation can do to boost her own VTE through learning from the efforts and success of others. This study therefore provided analytical data on objectives and organization of vocational technical education as evidences that government could use to formulate policies for vocational technical education effectiveness.

1.2. Purpose of the Study

Specifically, the study determined:

1. The major purposes that could help make Vocational Technical Education more responsive to the need of present youths (Male and Female), stagnated adult workers, the unemployed school leavers and able retirees in North Central Zone of Nigeria.
2. The objectives of Vocational Technical Education at basic, secondary and tertiary levels of education in North Central Zone of Nigeria.

1.3. Research Questions

The following are questions answered by the study:

1. What are the major purposes that could help make Vocational Technical Education more responsive to the needs of present youths (male and female), stagnated adult workers, the unemployed school leavers and able retirees in North Central Zone of Nigeria?
2. What should be the objectives of Vocational Technical Education at secondary and tertiary levels of education in North Central Zone of Nigeria?

1.4. Hypotheses

Two hypotheses were tested by the study.

1. There is no significant difference in the mean ratings of the responses of VTE teachers /lecturers, state and federal government education officials/parastatals and industrialists/community leaders on what should be the initiatives of VTE in North Central Zone of Nigeria.
2. There is no significance difference in the mean ratings of the responses of VTE teachers/lectures, state and federal government education officials/parastatals and industrialists/community leaders on the objectives of Vocational Technical Education at secondary and tertiary levels in North Central Zone of Nigeria.

2. Methodology

Design of the study: Descriptive survey was involved in gathering data for the study. A descriptive survey design is a type that studies a sample of a population bearing in mind their characteristics and using questionnaire to obtain data.

Area of the Study: The study was carried out in the North-central geopolitical zone of Nigeria, comprising- Nasarawa, Benue, Kwara, Kogi, Plateau and Niger states.

Population of the Study: The population for the study was 1500 made up of government officials, industrialists, business men, community leaders, VTE teachers in secondary and tertiary institutions, members of selected commissions (NERDC, NBTE and NCCE). The respondents were selected on the basis that they are both stakeholders and consumers of vocational technical education product/skill.

Sample and Sampling Technique: The sample for the study was 450 which is 30% of the population, made up of 117 officials of ministry of education / parastatals, 117 technical teachers (secondary schools and tertiary institutions), 99 business men / industrialists and 117 community leaders.

Instrument for Data Collection*:* The instrument for data collection was questionnaire guided by two theories of vocational technical education: i) Vocational technical education is meant for able bodied individual who wants it, needs it and can profit from it. ii). The equipment, tools and machines for training should be a replica of the equipment and machines in the work environment where the trainees will work on graduation: The questionnaire titled: Policy Initiative Questionnaire on Objective and Organization of Vocational Technical Education in North Central Zone of Nigeria. Each item in the questionnaire has a 4 - point response scale in the direction of the responses being solicited.

Validation of Instrument: The instrument was validated by 5 experts. 2 from higher VTE institutions, 2 from government / commissions and 1 from industries / business enterprises, i.e. employers of labor.

Reliability of the Instrument: The split - half technique was used in administering the questionnaire. Kudder- Richardson (K- R 21) formula was utilized in determining the reliability of the questionnaire. A reliability coefficient of 0.87 was obtained.

Method of Data Collection: The data was collected through the involvement of 6 trained research assistants at 1 per state. A total of 436 copies (92.00%) of the questionnaire were retrieved and analyzed.

Method of Data Analysis: Weighted mean, standard deviation and ranks were utilized in analyzing the data collected. The Analysis of Variance (ANOVA) was used to test the hypothesis at $P < 0.05$ level of significant. The arithmetic mean of the response scale (4, 3, 2, 1) was computed and it yielded 2.50. An interval scale of 0.05 was to determine the upper and lower limit of the arithmetic mean. The upper limit therefore was 2.55. Any item with mean value of 2.55 and above is regarded as an initiative. Any item with a standard deviation (SD) of less than 1.96 reveals that the respondents are not too far from the mean and from the responses of one another. This is used to determine the validity of the responses of the respondents and the level of credibility accorded to such initiative item. For the hypotheses tested, any item whose p-value is greater than 0.05 is regarded as not significant and the hypothesis of no significant difference is upheld for such initiative. For any item whose p-value is less than 0.05 is regarded as significant and the hypothesis of no significant difference is rejected for such initiative item.

2.1. Empirical Evidences from the Data Analyzed and Hypotheses Tested

Initiative-1. What are the major purposes that could help make VTE more responsive to the need of youths, stagnated adult workers, the unemployed school leavers and able retirees in North Central Zone of Nigeria?

Table-1. Mean ratings ($\overline{X}$), Standard deviation (SD) and Prioritization of the responses of the respondents on what should be the major purposes of Vocational Technical Education (VTE) in North Central Zone of Nigeria. N=436

S/N	Purposes of VTE in North Central Zone	$\overline{X}$	SD	Prioritization (Ranking)
1	To advance production through the improvement of vocational and technical education program.	3.45	0.66	2
2	To provide occupational skills in VTE to interested school leavers.	3.37	0.72	4
3	To provide learners with adequate skills to make a living and progressively advance in technology.	3.56	0.69	1
4	To prepare learners adequately for efficiency in business enterprises through vocational and technical education (VTE).	3.38	0.72	3
5	To prepare learners intellectually for advancement in technological innovations.	3.36	0.76	5
6	To encourage lifelong learning of occupational skills.	3.32	0.81	6

From Table 1 it is observed that the mean values of items 1 – 6 on what should be the major purposes of VTE range from 3.32 – 3.56 and are above 2.55. This implies that all the six items are regarded as major purposes that could help make vocational technical education more responsive to the need of youths, stagnated adult workers, unemployed school leavers and able retirees in North Central States of Nigeria. The standard deviation values of the six items range from 0.66 - 0.81.This shows that the respondents are close to one another and that they are not very far from the mean in their responses.

Initiative-2. What should be the objectives of Vocational and Technical Education (VTE) at secondary school, and tertiary levels in North Central Zone of Nigeria?

Table-2. Mean ratings ($\overline{X}$), Standard deviation (SD) and Prioritization of the responses of the respondents on objectives of Vocational Technical Education (VTE) at Secondary school level. N= 436

S/N	Objectives of VTE at Sec School level	$\overline{X}$	SD	Prioritization (Ranking)
1	Create awareness about different program in VTE for which students can enroll and develop skills for employment after graduation	3.56	0.65	1
2	Develop scientific knowledge in students about technologies relevant to their environment.	3.36	0.68	4
3	Develop entry level competencies in specific vocational technical education program that is of interest to the learner for job after graduation.	3.33	0.72	5
4	Expose students to various career opportunities in vocational technical education out of which a student can make a choice for future career development.	3.51	0.68	2
5	Develop students attitudes towards respect for dignity of labor	3.37	0.77	3

From Table 2 it is observed that the mean values of items 1 – *5* on what should be the objectives of vocational technical education at secondary school level range from 3.33 - 3.56 and are above 2.55. This implies that all the five items are regarded as objectives of vocational technical education at secondary school level. The standard deviation values of the five items range from 0.65 -0.77. This shows that the respondents are close to one another and that they are not very far from the mean in their responses.

Table-3. Mean ratings ($\overline{X}$), Standard deviation (SD) and Prioritization of the responses of the respondents on objectives of Vocational Technical Education (VTE) at tertiary institutions (University and Mono/Polytechnics) level. N=436

S/N	Objectives of VTE at Sec School level	$\overline{X}$	SD	Prioritization (Ranking)
1	Train students in job skills in specific program for employment in the labor market.	3.53	0.66	1
2	Develop student thinking habits and creativity for technology adaptation relevant for work in his/her environment.	3.47	0.64	2
3	Develop scientific knowledge in learners for inventions and innovations in technology relevant to his/her environment.	3.41	0.69	3
4	Develop students' attitudes towards respect for dignity of labor.	3.30	0.77	5
5	Create opportunities for technology-adaptation in learners for his/her environment.	3.35	0.74	4

From Table 3 it is observed that the mean values of items 1 - 5 on what should be the objectives of vocational technical education at tertiary institutions (Mono/Polytechnics and University) level range from 3.30 - 3.53 and are above 2.55. This implies that all the five items are regarded as objectives of vocational technical education at tertiary institutions (Mono/Polytechnics and University) levels. The standard deviation values of the five items range from 0.64 - 0.77. This shows that the respondents are close to one another and that they are not very far from the mean in their responses.

Initiative 1
Ho1:

Table-4. Analysis of Variance (ANOVA) of the Mean Ratings of the Responses of the Respondents on the Major Purposes of Vocational Technical Education in North Central Zone of Nigeria.

S/N	Purposes of VTE	Sum of Square	Residual	F-ratio	P-value	E^2	Rmks
1	To advance production through the improvement of vocational and technical education program	Between Groups 2.14 Within Groups 158.29 Total 160.43	1.50	2.50	0.08	0.99	NS
2	To provide occupational skills in VTE to interested school leavers.	Between Groups 1.34 Within Groups 192.80 Total 194.14	1.19	1.30	0.28	0.99	NS
3	To provide learners with adequate skills to make a living and progressively advance in technology.	Between Groups 4.33 Within Groups 173.89 Total 177.89	2.63	4.61	0.01	0.98	S
4	To prepare learners adequately for efficiency in business enterprises through Vocational and Technical Education (VTE).	Between Groups 0.63 Within Groups 193.55 Total 194.18	0.83	0.60	0.55	0.99	NS
5	To prepare learners intellectually for advancement in technological innovations.	Between Groups 1.65 Within Groups 214.49 Total 216.14	1.41	1.42	0.24	0.99	9
6	To encourage lifelong learning of occupational skills.	Between Groups 2.95 Within Groups 239.14 Total 242.10	2.12	2.29	0.10	0.99	NS

Significant at P <0.05

It is evident from Table 4 that there is no significant difference in the mean ratings of the responses of the three groups of respondents (VTE teachers / lecturers, state and federal government, education officials and industrialists / community leaders) on five out of the six items whose P-val (sig.) are greater than 0.05; but there is a significant difference in the mean rating of the three group of respondents on item 3 whose P-value is less than 0.05.

Initiative 2
Ho2:

Table-5. Analysis of Variance (ANOVA) of the Mean Ratings of the Responses of the Respondents on what should be the objectives of Vocational Technical Education at secondary school level.

S/N	Objectives of VTE at Sec. School level	Sum of Square	Residual	F-ratio	P-value	E^2	Rks
1	Create awareness about different program in VTE for which students can enroll and develop skills for employment after graduation	Between Groups 0.79 Within Groups 157.22 Total 158.01	1.82	2.93	0.39	0.99	NS
2	Develop scientific knowledge in students about technologies relevant to their environment.	Between Groups 2.65 Within Groups 170.30 Total 172.94	1.78	2.87	0.06	0.99	NS
3	Develop entry level competencies in specific vocational technical education program that is of interest to the learner for job after graduation.	Between Groups 3.58 Within Groups 187.19 Total 190.7.8	2.30	2.54	0.08	0.98	NS
4	Expose students to various career opportunities in vocational technical education out of which a student can make a choice for future career development.	Between Groups 9.15 Within Groups 162.08 Total 171.23	5.00	10.45	0.00	0.97 10	S
5	Develop students' attitudes towards respect for dignity of labor.	Between Groups 3.12 Within Groups 216.08 Total 219.20	2.05	2.68	0.70	0.99	NS

Significant at P <0.05

Table 5 shows that the P-values of four out of five items are greater than 0.05. This indicate that there is no significant difference in the mean ratings of the responses of the three groups of respondents on the four items as what should be the objectives of Vocational and Technical Education at secondary school level. Therefore, the hypothesis of no significant difference is upheld for the four items. The P-value of item 4 is 0.00 which is less than 0.05 indicating a significant difference in the mean ratings of the responses of the three groups of respondents, therefore, a hypothesis of no significant difference is rejected for item 4.

3. Discussion of the Findings

The findings that 21 items with mean values greater than the cut-off point of 2.55 and standard deviation values ranging from 0.66 – 0.81 were regarded as major purposes/ objectives of Vocational Technical Education and rated as initiatives for policy formulation. This finding is supported by the conclusions of Jung (2011) and Ugbalu (2012). In their various studies, the authors concluded that questionnaire items with mean values above 2.55 and standard deviation values higher than 0.66 could be submitted for policy making/ formulation.

The study also found out that there were no significant differences in the mean rating of the respondents on the objectives of vocational technical education at each bench mark of learning (secondary school and tertiary institutions -mono/polytechnics levels) in North Central Zone of Nigeria. This finding of the study is in agreement with the findings of Olaitan (2011) in a similar study on policy initiatives for effectiveness of vocational and technical education on rapid and sustainable national development. The study found out that there were no significant differences in the mean ratings of VTE teachers, Industrialists and community leaders. This finding is in conformity with Onjevvu (2013) in a study Assessing Technical and Vocational Education in Nigeria: A Situation Analysis of Kaduna Polytechnic, where the null hypothesis of no significant difference was accepted.

The findings in this study are in consonance with the findings of Auta (2015) in a study Policy measures for improving the administration of Technical Teacher Training Program (TTTP) in Nigeria where the author found out that 16 policy initiatives for planning, 7 for coordination, 13 for implementing and 8 for evaluating technical teacher training program. This finding is also in conformity with the findings of Olaitan and Alaribe (2011) in a study policy measures for improving teacher effective teaching and sustainability of Agric Science in schools, 8 policy measures could be put in place to help school administrators and students enhance teacher effective teaching of Agricultural Science in the schools. The findings of the study are in agreement with the findings of UNESCO (2012) who did a study on recommendations on technical vocational training for the 21st century that unemployment among the youths in Africa will drastically reduce if vocational technical education is made effective through research evidences.

Findings from this study clearly revealed that the respondents, who cut-across the spectrum of all the North Central States of Nigeria; that is government official / parastatals, industrialists, community members and teachers of vocational technical education made choices in order of priority on what should be the purposes and objectives of VTE in North Central Zone of Nigeria based on their concerns in the area of employment, economic growth, sustainability of employment, food security, less dependence on other countries for meeting local needs such as food and so on. These are regarded as factors influencing their choices or decisions on what should be the purposes / objectives and organization of a new or an emerging vocational technical education in the North Central Zone of Nigeria.

The findings of this study further opened path way for the government on how to reorganize its vocational technical education in order to meet the concerns and needs for survival by every youth, the unemployed, the disengaged and the retired. The findings have also provided information on what the education policy makers could do to improve VTE in the North Central Zone to rapidly improve the economy and sustain it without any negative 'effects on the existing structure of the Nigerian education system. Findings from this study encouraged that graduates for senior secondary school who could not secure admission into any tertiary institution, that is, University, Mono/Polytechnic or Colleges of Education and are unemployed but become trapped in the buffer zone between senior secondary school and higher institutions should now benefit compulsorily from *2* years advance vocational technical education. This is with the understanding that these graduates have scientific and cultural knowledge required by advanced VTE program. The findings of the above authors gave credence to the findings of this study.

4. Conclusion

If the findings from this study are implemented for policy formulation, the following benefits are likely to be realized:

i. The image of Vocational Technical Education will be improved in the Zone because it will become more attractive to every youth or adult in their local environment or elsewhere in the zone for skill empowerment.
ii. Unemployment among school graduates will drastically reduce as they will be transformed by vocational technical education into contributory members to the national economy through employment.
iii. It will drastically reduce rural-urban migration of youth since there will be attractive vocational technical education at the local government level that can engage these youth in meaningful and sustainable production activities for living.

5. Recommendations

1. It is recommended that the evidence or findings from this study be utilized by the various North Central States' government for making policy for effective vocational technical education in the zone.
2. Each local government area in the zone should have a technical college with advanced program to accommodate compulsorily unemployed secondary school graduates in their environment.
3. For rapid and sustainable preparation of qualified technical teachers for all the local government areas in the zone, the study further recommended the establishment of Technology Education University.

References

Auta, J.A., 2015. Policy measures for improving the administration of technical teachers training programme in Nigeria. A Paper Presented at the 23rd Annual International Conference of Nigeria Vocational Association Held, between 5th and 8th August, in Yaba College of Technology, Yaba Lagos.

F.G.N, 2013. The national policy on education. Yaba Nigeria: NERDC Press.

Hawley, J., 2013. Public private partnerships in vocational education and training: International examples and modils. Washington DC: World Bank.

Jean, N., 2011. Cameroon at the time of vocational and technical and technical training reforms. A Paper Presented at the Sub-Regional Seminar on UNESCO'S Recommendation on Technical Education and Vocational Training. Kaduna – Nigeria. 8N – 11/.

Jung, T.H., 2011. The promotion of linkage between technical and vocational educational and the world of work in Indonesia. In promotion of linkage between technical and vocational education and the world of work. Paris: UNESCO.

Miller, A.R., 2013. Linkage between technical and vocational education and the world of work in Indonesia. Paris: UNESCO.

Okonze, J.A. and J.C. Onuoha, 2014. Evolving policy measures for promoting agricultural education in tertiary institution in North Eastern Nigeria to reduce youths restiveness. Journal of Home Economics Research, 18(1): 231- 243.

Olaitan, S.O., 2011. Policy initiatives for effectiveness of vocational technical education on rapid and sustainable national development. A Research Report Submitted to NERDC, Abuja.

Olaitan, S.O. and M.O. Alaribe, 2011. Policy initiative for improving teacher effective teaching (TET) of agricultural science in secondary schools in South West Nigeria. Journal Curriculum Organisation of Nigeria, 18(1): 23-36.

Onjevvu, M.A., 2013. Assessing technical and vocational education in Nigeria: A situation analysis of Kaduna polytechnic. A Paper Presented at the 31st Annual Conference of the International Association for Educational Assessment. Abuja, Nigeria.

Oujer, N.M.A., 2009. An assessment of Nigeria goals of technical education: The journey so far and the way forward. A Paper Presented at the 33rd Annual Conference of the International Association for Educational Assessment. Baku, Azerteijan.

Tilak, J.B.G., 2012. Vocational and training in Asia. The handbook on educational research in the Asia pacific region. Japan: Rimer Publishers.

Ugbalu, E.S., 2012. Vocational technical education and economic development. The Singapore experience. Soapier: Institute of Technical Education.

Ugwoke, E.O., F.M. Onu and M.U. Agboeze, 2013. Strengthening vocational technical education padagogy for knowlegde economy. Journal of Home Econoimc Research, 18(2): 220-230.

UNESCO, 2012. Recommendations on technical and vocational training for the twenty first century. Paris: UNESCO.