

# FINANCING VOCATIONAL AND TECHNICAL EDUCATION IN INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) ERA FOR SUSTAINABLE DEVELOPMENT

BY

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## Abstract

*The study examined the financing of vocational and technical education in ICT era for sustainable development. 120 technical teachers (male and female) were randomly drawn from a population 576 of technical teachers in 14 technical colleges in Benue State. Data was collected and administered through a structured questionnaire tagged, Financing of Vocational and Technical Education in ICT Era (FVTEICTE). Cronbach alpha reliability methods were adopted to determine the internal consistency of the questionnaire items with the reliability coefficient of 0.79. Relevant data were analyzed using mean and standard deviation. The result of the study showed that all levels of TVET sectors, in Nigeria are underfunded and inadequate financing is the most critical challenge facing TVET in Nigeria. It was recommended that there should be a strong collaborations between private and public sectors in providing training to staff and students, in provision of equipment, tools, machines and facilities, including, ICT, for teaching and learning, funding the project, financing TVETS workshops, seminars and conference.*

## Introduction

Inadequate financing/funding is the one of the most critical challenges facing vocational and technical education and education sector in Nigeria. This problem can be traced back to 1840 when western education was introduced in the country. Although, the missionaries who introduce the system, funded in the best way they could (Maduewesi, 2001) Since then the problem of underfunding/financing of education has not been addressed, despite government effort to improve the situation by establishing agencies like Education Trust Fund, (ETF) Petroleum Special Trust Fund (PSFT) among others.

This problem has led to poor implementation of education policies with the resultant effect on poor student preparation at all levels of education. The ill preparation led to poor performance of graduates and this promote unemployment, poverty, social ills and under development. Jen (2010) observed that, all levels of the education sector in Nigeria is underfunded. The author presented the following statistics that only 13%, 7.5% and 6.4% of the federal government budget were allocated to education in 2008, 2009 and 2010 respectively.

Information and Communication Technology (ICT) is recognised in the National Policy on Education (Federal Republic of Nigeria, 2004) as a product of technological change and as an innovation in education. Information and communication can be seen as the study of the technology used in handling information and aiding communication. The phrase was coined by Stevenson in his 1997 report to the UK government and promoted by the new National curriculum documents for the UK in 2000.

Technical and Vocational Education, According to United Nations Educational Scientific and Cultural Organisations, (2002) “refers to all forms and level of the education process involving, in addition to general knowledge, the study of technologies and related science and acquisition of practical skills, know-how, attitudes and understanding relating to occupations in the various sectors of economics and social life: National Policy on Education (Federal Republic of Nigeria, 2004) sees technical and vocational education as:

- a. an integral part of general education
- b. a means of preparing for occupation fields and for effective participation in the world of works;
- c. an aspect of lifelong learning and a preparation for responsible.

- d. an instrument for promoting environmentally sound sustainable development;
- e. a method of alleviating poverty.

Technical and Vocational Education can be seen as that aspect of training that deals with the preparation of students for acquisition of necessary skills, knowledge and attitudes to gain employment as expert assistant to professionals in any field of technology and engineering.

Education financing is describe by Ogoanya (2002) as the process by which tax, revenues and other resources are derived for the establishment and operation of educational institutions as well as the process by which these resources are allocated to institution in different geographical areas. In other words, it is the art of generating money from various sources and making the money available for building academic institutions by acquiring and providing teaching and learning resources.

Onyachu (2005) noted that no organization functions effectively without funds, unfortunately funds allocated to education are grossly inadequate. This affects implementation of vocational and technical education.

Olaitan (1986) asserted that funding of vocational education has become difficult even though it is this same form of education that holds the greatest guarantee for scientific and technological development and survival of Nigeria. Similarly, Adamaechi and Romatine (2000) confirmed that as funding is a factor which contributes to the success of an educational policy. Vocational education provision develops so does the cost increases. The dearth of most past educational policies in Nigeria is funding.

Funding is money made available for projects or programme (Olaitan, 2008). It is integrated in terms of total money to be expended on a project or programme before it is completed. While financing is expressed as the act of given cash or material resources that could be exchanged for money and made available for a particular purpose).

Osinem (2008) stated that, the beginning of the 21st century has brought with it a new pattern of communication and instruction. Propelled by advanced in computer and telecommunication technology, these technologies represented in the ubiquitous phenomenon called internet. Other product of technologies includes the CD-ROM, floppy diskettes and flash drives. Vocational and technical education teachers need to be aware of the possible and probable uses of information and communication technologies (ICT) so that they can identify techniques and methods that further their educational goals.

Osinem (2008) maintain that the features of ICT, such as speed flexibility can make a significant contribution to student's knowledge, understanding and skills in vocational and technical education. The use of ICT can help vocational and technical education teacher in:

1. Assisting with the preparation of teaching materials.
2. Assisting teachers to demonstrate experiments and concepts in science, e.g. using presentation package for whole class teaching.
3. Application of computer aided instruction (CAI) models
4. Application of computer aid drafting (CAD)
5. supporting students working with primary sources of data during investigative and practical work;
6. Helping students to develop research and study skills in science.

Commenting on the negative effects of inadequate financing of vocational and technical education in Nigeria, Nwachukwu (2005) lamented that the present level of underfunding by the state, the public sector of education at all levels of education has witnessed stagnation and delay. The Federal government bears the lion share of the financing burden because of the enormity of institutions at both post primary and post-secondary under its ownership and control. State governments are equally responsible for financing secondary and higher institutions of learning for which they have owners and control. Similarly, primary schools are taken care of by local government. Such financial resources are channeled through the relevant government agencies for distribution to the institutions.

Apart from the statutory allocation made by government, schools receive additional financial resources

from government in terms of special grants. The Education Tax Fund (ETF) has generated a lot of revenue to government for use in financing education. Special grant could be given from such funds for specific capital projects in the vocational and technical education institutions.

Some institutions receive sponsorship awards and or grants from some international agencies such as UNICEF, World Bank, etc. to aid them in some specific and desirable academic projects.

Some multinational companies operating in Nigeria do, from time to time, donate teaching aids and other facilities to institutions of learning as part of their contributions to the development of education in the country. Books and equipment such as computer, laboratory equipment are often donated. And greater part of the donations should be geared towards vocational and technical programme.

The communities within which schools are located sometimes assist in the area of land allocation, money and property to start academic programmes in the school. Sometimes they employ and pay some teachers in some subject areas where there are no teachers. Some receive grant-in-aid from some professional association who want help in the speedy and effective development of their professional programmes in the institutions. Similarly Alunmi Association renders some assistance by undertaking development project in their institutions. Institution of learning also takes their financial resources from approval fees paid by students. These are made of tuition fees, accommodation fees, development fees, and other charges. Inadequate funds from government have prompted many institutions, in recent times to float consultancy services programs in order to generate enough revenue for their programmes. This is in line with recent government policy that institutions should look inward to their finance.

Vocational and technical education by virtue of its nature as skill development programme requires a lot of money for capital projects and overhead. Based on this, its funding needs cannot be underestimated. The following needs justify, greater funding of the programmes.

1. Equipment needed in vocational and technical education institutions are both teaching and operational equipment. This equipment must be relevant and adequate. Obsolete ones must be replaced with modern equipment.
2. Equipment and machines require routine checks and overhauling. The schools need to carry out routine checks maintenance on existing equipment so as to keep them in continuous working condition for effective learning to take place. They require funds to carry out such regular checks and maintenance.
3. The one area that requires constant and uninterrupted funding is salaries and allowances of teachers. There must be sufficient financial allocation for regular payment of salaries and allowances of vocational and technical education teachers in order to motivate and retain them in the job.

Equipment and machines used in vocational and technical education are very expensive and fragile. There is need to provide adequate security such as construction of special workshops, installation of burglary proofs and the employment of security guard to safeguard these equipment. Vocational and technical education programme requires funds to acquire materials that are frequently used up either independently or with the use of machines to facilitate learning. The school needs chalk, other writing materials, chemical for the laboratories, fuel for the plant and vehicles, etc, adequate funds must be provided for these overheads to keep the school programmes in steady progress.

The programme requires well-trained and experienced personnel. Knowledge of teachers must be updated through further training programmes. Teachers must be sponsored to further their studies especially in this era of rapid technological changes. As technical teachers, they must update their knowledge with new trends in equipment and machines. The student's industrial work experiences scheme (SIWES) is a skill training programme designed to expose and prepare students of higher-institutions for work situation, as they exist in the world of works.

Osinem and Nwoji (2005) confirmed that:

*The student's industrial work experience scheme provides students opportunities to familiarize themselves with and expose them to tools, equipment and machines that are not available in their various institutions but which also exposes the students to work methods and prepares them in safeguarding the work area and other workers in the industry.*

One of the most important aspects of vocational and technical education programme is the student's industrial work experiences scheme (SIWES). The beauty of being a graduate of vocational and technical education is in the individual's ability to transfer classroom-learning experiences into the work situation. The SIWES provides this opportunity, The vocational and technical education programme requires adequate funds to carryout, the responsibility of organizing and sending out students for the scheme successfully.

In order to keep knowledge expanding, discover new methods of doing things as well as keep paces with global changes, research effort in vocational and technical education must be sustained. The schools need funds to carry out research as well as sponsor their staff for that purpose.

### **Statement of the Problem**

The funding of vocational and technical education in the country is far below desired expectation and many factors account for the poor funding. The present system whereby education is generally controlled by a single unit of authority is part of the problems of vocational and technical education. The clamour has been that vocational and technical education should come under a separate control from the general education authorities whose bias has always been to favour their general discipline at the expense of vocational and technical education. Since this dream has not been made possible, vocational and technical education continues to suffer a set-back in terms of financing. Those educational administrators like ministry of education, whose bias is in general education obviously deny vocational and technical a fair share of financial allocations partly out of ignorance of the importance and need of this programme and partly out of disdain for the programme. The longer this situation continues, the more the condition of vocational and technical education deteriorates.

Government has continually expressed its determination to promote vocational and technical education. This determination has however, not been practically expressed in term of adequate financing of Vocational and Technical Education. Its attitude towards making good promise has not been very encouraging. Government must make more concrete commitment to vocational and technical education in order to enable the programme to achieve its purpose.

One of the major set-backs to vocational and technical education is the society's attitude towards the programme. The society is yet to change its strong bias in favour of general and science education to vocational and technical education. Added to this is its attitude towards the teaching profession. People generally believed that anybody that studies vocational and technical education will end up in the classroom, a profession they abhor so much. For this reason their attitude towards the funding/financing of the programme has been poor and discouraging.

The vocational and technical education teacher-training programme is solely run by government. Major funding for the entire vocational and technical education programme comes from government in a depressed economy in which the limited resource of government is being scrambled for by so many needs. Government finds it difficult to adequately finance the vocational education programme.

### **Purpose of the Study**

The main purpose of the study is to determine the different ways of financing Technical Vocational Education and Training (TVET) in ICT Era for sustainable development.

### **Research Questions**

In what ways could Technical Vocational Education and Training (TVET) be financed in the era of ICT to facilitate the achievement of sustainable development in Nigeria?

### **Methodology**

Descriptive survey research method was employed. The descriptive survey is a systematic way of collecting data and examining current situations in a given phenomenon without any experimental method. All technical teachers in the fourteen technical colleges in Benue State constituted the population. Presently, the total technical teacher in the technical colleges is five hundred and seventy-six (576). A representative sample made up of 120 technical teachers were drawn, using cluster sampling techniques

from various sections. The instrument for the study, tagged financing Vocational and Technical Education in ICT Era (EVTEICTE) was a structured 20 items questionnaire with four rating scale designed in order to obtain information from the respondents in each of the participating schools. The validity of the instrument was established by three experts in vocational and technical education. Internal consistencies of the questionnaire were established using Cronbach alpha and value got was 0.79. All the responses were coded and analyzed. Mean and standard deviation was used to answer research questions,

## Results

### Research Question 1

In what ways could TVET be financed in this era of ICT to facilitate the achievement of sustainable development in Nigeria.

**Table 1:**

**The way TVET could be financed to facilitate the achievement of sustainable development**

S/n	Item	X	SD	Remarks
1.	A percentage from monthly allocation of federal, state and local government are dedicated for financing of TVET in Nigeria.	3.98	2.28	Agree
2.	Government should equip workshops, laboratories in TVET school to enable them generate revenue.	3.96	2.24	Agree
3.	TET Fund grants are given to TVET schools yearly.	3.97	2.26	Agree
4.	Higher percentage of grants received from International agencies such as UNICEF is channel to TVET institutions.	3.98	2.28	Agree
5.	Contact alumni association as well as professional association for sponsorship.	3.06	2.14	Agree
6.	Solicit assistance from multinational companies	2.54	0.51	Agree
7.	Special awards should be instituted for individual who have contributed to the development of the programme.	3.94	2.20	Agree
8.	TVET departments that are run in the institutions should undertake consultancy services to raise funds	3.92	2.16	Agree
9.	Employers: Employees both public and private sector should contribute to a training base on a percentage of their enterprise payroll.	3.98	2.28	Agree
10.	Charging high school fees for TVET institution	3.93	2.18	Agree
11.	Fees paid by trainees should cover raining cost.	3.97	2.24	Agree
12.	Individual groups e.g. wealthy individuals, churches or faith base organization (NGO's) one support TVET through donations.	3.96	2.24	Agree
13.	Local communities can make cash and non -cash contributions in the form of land	3.92	2.16	Agree
14.	TVET teachers embark on profitable projects with their students	2.65	0.81	Agree
15.	A sustainable percentage value added tax (VAT) be set aside for growth of TVET Programmes.	3.80	2.12	Agree
16.	Parent Teachers Association organizing fund raising for TVET intuition yearly.	3.70	2.08	Agree
17.	Introducing property tax for its citizens by government	3.85	2.13	Agree
18.	Development levy for all category of people for growth of TVET institution in Nigeria.	3.91	2.00	Agree
19.	Student to be levied yearly for development of TVET in Nigeria .	3.56	2.02	Agree
20.	Churches are taxed yearly for development of TVET programme.	3.98	2.28	Agree

From Table (i) items 1,2,3,4,7,8,9,1Q,12,13,15,16,17,19 and 20 obtained mean scores ranging from 3.36 to 3.98. These indicate that respondents strongly agree on the ways TVET could be financed to facilitate the achievement of sustainable development in the country Nigeria, while items 5,6,14, and 18 which obtained mean scores ranging from 2.54-3.06 shows that respondents also agree that the stakeholders can solicit assistance from alumni association, multinational companies, profitable projects from their students and by levying different categories of people in the society for the growth of TVET institutions in Nigeria.

### **Discussion**

The finding of the study shows that all levels of TVET sectors in Nigeria is under-funded and inadequate financing is the most critical challenge facing TVET in Nigeria. The result of the findings showed that the governments (federal, state and local) should be dedicated and allocate ascertain percentage from monthly allocation for financing TVET. This is in line with Nwachukwu (2005) who lamented that the present level of underfunding by the state, the public sectors of education at all levels of education has witnessed stagnation and delay. The respondents also agreed that government should equip workshops and laboratories, request TETFund grants and grants from international agencies such as UNICEF, 'For the development of the programme.

Olaitan observed that funding of vocational and technical education has become difficult even though it is the same form of education that holds the greatest guarantee for scientific and technological development and survival of Nigeria. The major funding for the entire vocational and technical education and training programme comes from government, in a depressed economy where the limited resource of government is being scrambled for by so many needs. The researcher is of the opinion that involving alumni association as well as professional association for sponsorship will go a long way to facilitate the achievement of sustainable development. According to Gbamanja (2014), it is believed that education is the cornerstone for national development and science Education to which TVET is part of is the gateway to achieve sustainable socio-economic development especially now that many African countries have experienced extensive devastation in infrastructure and other socio-economic activities as a result of unnecessary rebel activity and brutal wars. The findings also revealed that TVET teachers should be encouraged to embark on profitable projects with their students as a way of generating money for the running of schools. Specialist teachers, to handle the trade subject are not available for a good take off of the new curriculum at least in TVET. This is in line with Ezeji (2012) who stated that every teacher involved in TVET must be dedicated to duty in his/her dealings, productive, accountable and lead by example. All the teachers in TVET must embrace hard work as a watchword. Training and retaining TVET teachers is always expected from public sector (government) but it is important to note that government needs impact from the private sector since they are both providers and employees of labour, therefore government (public) and private including parent Teachers association are supposed to work together in setting up facilities for training and education, sponsoring retraining and training programmes, especially in this era of ICT.

### **Conclusion**

From the analysis presented in the report, it is essential to conclude as follows:

Technical Vocational Education and Training is all about skills acquisition through manipulation of tools and equipment and it lacks facilities and workshops for effective teaching of trade's curricula. This is a clear indication that federal Government alone will not be able to finance TVET. There is need to involve both the private and public sectors as well as the non-Government Organization (NGOs) in funding, financing and training of both teachers, other staff and students to ensure technological advancement through TVET. Private (international agencies, TETFund, Alumni, multinational companies and public partnership in TVET involves collaboration with the two sectors in providing\, training to staff and students, provision of equipment, tool, training to staff and students required for teaching and learning funding of projects, financing to TVET programmes (seminar, workshops). inability to collaborate with private and public sectors in TVET programme will continue to pass serious challenge to the growth and sustainable development of the technological sector of the economy.

### **Recommendations**

Based on the findings, the following recommendations are made:

1. The government at all levels should strengthen the role of private sectors in providing TVET programme by encouraging private sector contribution in in-service TVET by giving tax relief and national awards to the contributors.

2. Government should enact a law mandating industries to assist in funding TVET programmes and clearly state the benefits due to the industries that participated.
3. There should be a strong collaborations between private and public sectors in providing training to staff and students, in provision of equipment, tools, machines and facilities, including, ICT, for teaching and learning, funding the project, financing TVETS workshops seminars and conference.
4. The alumni as well as professional association should be contracted and sensitized for possible sponsorship of same programmes in TVET.

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