Leveraging Modern Technologies in Developing Vocational Education Professionals in Nigeria Universities

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ABSTRACT

Vocational education programmes in Nigerian Universities are greatly affected by technological advancement, changes in curriculum content and methodology both in teaching and learning. This paper sought to determine the extent to which modern technologies have been leveraged to promote vocational education programme in Nigerian Universities to enhance their standards and contribution to socio-economic and vocational education professional development in Nigeria. Two research questions were generated and one hypothesis was formulated One hundred and twenty (120) vocational education lecturers from the University of Calabar and Cross River University of Technology (CRUTECH) were used for the study. The hypothesis was tested at 05 significant levels. The study revealed that modern technologies are inadequately utilized for promoting professional opportunities in vocational education in Nigeria.

Keyword: Odern Technologies, Socio-economic, professional Development, Vocational Education, Curriculum content, Methodology

INTRODUCTION

Vocational Education programmes at tertiary level are designed to provide opportunities for the development of professional vocational education teachers who will take charge of imparting knowledge and ideas into secondary school students. In other words, the programmes are designed to prepare or train vocational education professionals. These professionals will in turn be the vocational education subject teachers for senior secondary schools and tertiary institutions. Usually, degrees obtained by the graduates of these programmes range from B.Sc (Ed), M.Sc (Ed) and Ph.D with specialization in either Business Education, Agricultural Education, Industrial Education and Home Economics Education.

The development of professional opportunities in Vocational Education depends, to great extent, on the ability of the programme to embrace modern technologies in their instructions. One of the objectives of vocational education is to provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development (FGN 2004). With the rapid development of modern technologies in all sectors, agriculture, commerce and economic activities are affected. As such, efforts should be made to ensure proper leveraging of these modern technologies in Nigerian Universities to enhance adequate production of professionals in vocational education in Nigeria. Technology calls for innovative learning behavior, that is, a behavior for which human capability is designed when such learning or method of acquiring technological skills are applied to vocational education programmes in Nigerian Universities, professional development opportunities are assured in the field. Technology connotes, any creative process or method which any physical equipment or appliance such as machine is used to modify, change, reproduce or create a new product or information, (Ekpenyong, 2005).

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REVIEW OF RELATED LITERATURE

Many scholars had so many occasions shown great concern about the personal quality and character of the teacher and the teaching profession in Nigeria. Fafunwa (1991) contends that the success or failure of any education is dependent on the teacher, and that education holds the key to national development. Invariably the teacher holds the key to qualitative education. To attain the qualitative education, professional teachers have to be produced with the modern technologies that will make them modern professionals. There is also the ever-increasing emphasis on teacher professionalism as a result of modern technological teachers; as competency based teaching, teacher accountability, teacher performance, teacher training models and teacher productivity.

According to Osuala (2004), the teacher's role must be redefined in order to utilize the changing technology. A true professional teacher should be acquainted with modern technologies for his/her instructional purposes. Finnin in Osuala (2004) stated that when high speed printing techniques, radio, sound, motion pictures, television and other forms of communication technologies were invented, developed and exploited, educators failed to apply these devices to the instructional process and of course failed to develop the appropriate technological system necessary for this application. In such a case, such teachers could not be regarded as professionals, because they were not technologically competent.

However, in the recent years, efforts are being made to incorporate technology into education especially at tertiary level. Most Nigerian Universities have introduced computer education as a compulsory course for all students. This was necessitated by discovery of the fact that developing technologies such as computer literacy could do much to assist in the solution of a number of education problems like changes in job requirements, increased rate of school dropouts, attention given to the long neglected need of the gifted, and the retarded, as well as the educationally disadvantaged students.

In some Nigerian Universities today, technology has become an integral part of the instructional process, especially the Open University in Nigeria, which makes use of technologies to teach the students in order to enhance their professional development. Leveraging the modern technologies as done in most developed countries can also enhance professional development opportunities in vocational education. As put by Osuala (2004), the Open University in United Kingdom uses a combination of technologies to teach some 60,000 adult undergraduates. In Botswana, radio is used to teach development skills and in Canada, tele-medicine services are being provided to very remote villages. In order to prepare students for the present and future, attempt should be made to incorporate technological developments in Nigerian schools to enable rapid effect upon the technological "revolution" expected in the country, (Osuala, 2004).

STATEMENT OF THE PROBLEM

Vocational Education is a strong tool for developing competent professionals for economic transformation especially in a developing country like Nigeria. This aspect of education programme seems to be incapacitated in providing opportunities for professional development due to lack of adequate leveraging of modern technologies in Nigerian Universities, Hauwa (1992) said that, currently strategies and facilities for instructing prospective teachers are lacking in many of our Universities; students are not exposed enough to variety of modern instructional technologies and current concepts in teaching. This paper therefore, aims to ascertain the extent to which modern technologies have been leveraged in Nigerian universities to promote vocational education programme to enhance its standard and contribution to professional development.

PURPOSE OF THE STUDY

The main purpose of this study is to ascertain the extent of leveraging modern technologies for the development of vocational education professionals in Nigerian Universities. Specifically, the study aimed at:

1. Determining the modern technologies that are leveraged in Nigerian universities for the development of vocational education professionals
2. Ascertain the adequacy of the modern technologies leveraged for the development of vocational education professionals in Nigerian universities.

RESEARCH HYPOTHESIS

There is no significant difference in the mean response of vocational education lecturers and students on the modern technologies leveraged for the development of vocational education professionals in Nigerian universities.

METHODOLOGY

The area of the study was Cross River State of Nigeria. The University of Calabar and Cross River State University of Technology (CRUTECH), Calabar were the foci of the study. The population for the study consisted all the 20 lecturers and 100 final year Vocational Education students of the universities. This made it a total of 120 respondents used as sample of the study. Structured questionnaire was constructed by the researchers and used for data collection for the study.

The instrument was subjected to face validation by experts in the University of Calabar and its reliability was readily confirmed through test re-test using selected few respondents outside the respondents used for the study. The data generated from the respondents were subjected to analysis using frequency and simple percentage statistical tools for the research questions and t-test analysis at .05 level of significance to analyze the hypothesis. Any item with score of 50% and above was accepted as being leveraged and adequate respectively. While items with score of 49.99 and below were considered not leveraged and inadequate in the universities studied.

RESULTS

Table 1. Modern technologies leveraged in the universities for the development of vocational education professionals(Continued.....)

S/N	*Items/technologies*	*No*	*F*	*%*	*Remarks*
1	Word processors	120	30	25	Not leveraged
2	Computer units	12	65	54.2	Leveraged
3	Fax machines	120	36	30	Not leveraged
4	Video machines	120	73	60.8	Leveraged
5	Televisions	120	80	66.8	Leveraged
6	Telephones	120	86	71.6	Leveraged
7	Photocopier	120	65	54.2	Leveraged
8	Tractors	120	35	29.2	Not leveraged
9	Mowers	120	46	38.3	Not leveraged

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Table 1. Modern technologies leveraged in the universities for the development of vocational education professionals (.....Continued)

S/N	*Items/technologies*	*No*	*F*	*%*	*Remarks*
10	Weeding machines	120	66	55.6	Leveraged
11	Cooking gas	120	35	29.2	Not leveraged
12	Electric cookers	120	26	21.6	Not leveraged
13	Deep freezers	120	36	30	Not leveraged

From the analysis in table 1, it is revealed that a few modern technologies were leveraged in the universities in Cross River State of Nigeria to enable professional development in vocational education. Technologies like computer units, video machines, televisions, telephones, photocopiers and weeding machines were leveraged. The items scored, 54.2%, 60.8%, 666.8%, 71.6%, 5 and 5 respectively.

While technologies like word processors, fax machines, tractors, mowers, cooking gas, electric cookers and deep freezers were least leveraged for developing professionals in vocational education in the universities in Cross Rivers State of Nigeria. Their scores were 25%, 30%, 29,3%, 29.2%, 2 and 30% respectively.

Table 2. Adequacy of modern technologies leveraged in the universities for the development of vocational education professionals

	Items/technologies	*No*	*F*	*%*	*Remarks*
1	Word processors	120	26	21.1	Inadequate
2	Computer units	120	55	45.8	Inadequate
3	Fax machines	120	35	29.2	Inadequate
4	Video machines	120	65	54.2	Inadequate
5	Televisions	120	66	55	Inadequate
6	Telephones	120	70	58	Inadequate
7	Photocopiers	120	58	48.	Inadequate
8	Tractors	120	26	21.6	Inadequate
9	Mowers	120	25	21.6	Inadequate
10	Weeding machines	120	35	29.2	Inadequate
11	Cooking gas	120	25	20.8	Inadequate
12	Electric cookers	120	25	21.6	Inadequate
13	Deep freezers	120	25	21.6	Inadequate

Table 2 showed that most of the technologies leveraged for professional development in vocational education were not adequately procured for utilization. Only video machines 54.2%, television 55% and telephones 58% were adequately leveraged. While word processors, 21.6% computer 45.8%, fax machines 29.2°Io, photocopiers 48.3%, tractors 21.6%, mowers could not be adequately leveraged due to inadequacy in their supply.

Hypothesis Analysis

There is no significant difference in the mean response of vocational education lecturers and students on the modern technologies leveraged in Nigerian Universities for the development opportunities for vocational education professionals in Nigerian Universities.

Table 3. T-test analysis of mean responses of vocational education lecturers and students on the modern technologies leveraged in Nigerian Universities for development opportunities for vocational education professionals

Respondents	*n*	*x*	*SD*	*t-Cal*	*t-table*	*Remark*
Lecturers	**20**	**2.18**		**0.43**		

Table 3 on the other hand, revealed that difference existed between the mean responses of vocational education lecturers and the students on the modern technologies leveraged in the Universities in Cross River State for development opportunities for vocational education professionals. The table showed that the calculated t which is 4.3 is greater than the table t of 12.7. This indicates that the hypothesis which states that there is no significant difference in the mean responses of vocational education lecturers and the students on the modern technologies leveraged in the Universities in Cross River State for development opportunities for vocational education professionals is rejected.

DISCUSSION

One of the findings of the study was that, though some modern technologies were leveraged in Nigerian Universities for the development of vocational education professionals, a lot were not adequately leveraged. It was observed that about 8 of the respondents strongly agreed that most useful modern technologies were not leveraged to enable the development of professionals in vocational education in Cross River State of Nigeria. This is contrary to Osuala (2004) who discovered that Open University in United Kingdom used a combination of technologies to teach some 60,000 adult undergraduates. According to him, in Botswana, radio is used to teach development skills and in Canada, tele-medicine services are being provided to very remote villages. In order to prepare students for the present and future, attempt should be made to incorporate technological developments in Nigerian schools to enable rapid effect upon the technological revolution expected in the country. This no doubt, would effect the effective professional development in vocational education in Nigerian Universities. The quality of education received by learners bears direct relevance to the adequate leveraging or lack of technologies/facilities.

The study further revealed that the modern technologies required in the Universities were not adequately procured for effective utilization. This discovery is in line with Hauwa (1992), who claimed that appropriate modern technologies for instructing prospective teachers are not available in many of our Universities. The students are exposed enough to the variety of modern technologies and current concepts of teaching. Adequate procurement of modern technologies in the Universities is a necessity for developing professionals in vocational education. Professionalism has to do with practical, which cannot be completely attained, without the availability of modern technologies. Teaching and learning with inadequate facilities/equipment is as frustrating and uninteresting as it is ineffective.

CONCLUSION

The study was carried out to determine the extent of leveraging modern technologies in Nigerian Universities for development of vocational education professionals. Cross River

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State of Nigeria was the area of study, while the focus of the study was the University of Calabar and Cross River State of Technology (CRUTECH), Calabar.

Many things should be done in leveraging modern technologies in our Universities, if professional development in vocational education is envisaged. This is due to the fact that most modern technologies necessary for leveraging towards this goal were grossly inadequate. The few available ones could not be adequately leveraged due, probably to incompetency on the part of the lecturers. The rapid pace of change in vocational education due to technological development means that, if care is not taken, Nigeria will in the near future; find the services of vocational educators unprofessional and obsolete. Adequate attention should be paid to vocational education programme if the country must survive the taste of time.

RECOMMENDATIONS

The following recommendations were put forward for necessary consideration:

1. To ensure professionalism in vocational education, modern technologies procurement should be a priority of the governments concerned.
2. The teacher education agencies like the National Teacher Institute, Accreditation Bodies, National Universities Commission and professional organizations should insist on the leveraging of modern technologies in our Universities and greater demands for accountability to uphold quality and professionalism.
3. University lecturers, while striving to attain professionalism through leveraging modern technologies, should be mindful of the background of their students, operational environments and the educational system that would absord the graduates. Nigerian Universities should also note that modern educational technology cannot be transferred into Nigerian cultural values and practices while at the same time not sacrificing modernization.

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