E-LEARNING AS A VERITABLE TOOL FOR PREPARING VOCATIONAL EDUCATORS FOR EFFECTIVE TEACHING IN COLLEGES OF EDUCATION IN WESTERN NIGERIA

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Abstract– This study creates a keen impression of the E-Learning as a veritable tool for preparing vocational educators for effective teaching in colleges of education. E-learning or electronic learning, is education based on modern methods of communication including the computer and its networks, various audio-visual materials, search engines, electronic libraries and websites, whether accomplished in the classroom or at a distance. Generally speaking, this type of education is delivered through the medium of the World Wide Web where the educational institution makes its programmes and materials available on a special website in such a manner that students are able to make use of them and interact with them with ease through closed or shared networks, or the internet and through use of e-mail and online discussion groups. The findings of this study will be of benefit to me following bodies: vocational educators, students, government, school management, parent, business organization and researchers. One hundred vocational teachers drawn from three colleges of education in Lagos State of Nigeria constituted the population and seventy five vocational teachers were used as sample for the study. The study was guided by two research questions and two null hypotheses were formulated. The study utilized a validated four structured questionnaire with reliability co-efficient of 0.80 using Crombachy Alpha reliability test. Mean and standard deviation were used to analyze data collected in order to answer the research questions while the null hypotheses were tested at 0.05 level of significance using Z-test statistics. It was found out from findings that education in Nigeria cannot be relevant without effective preparation of new generation of students to effectively use the new Information and Communication Technologies (ICT) in their professional practices while, lack of fund to procure necessary technology for e-learning by vocational teachers also serve as hindrance to effective teaching of vocational education courses in colleges of education in Nigeria. It was recommended among others that vocational teachers, educators and students must change their mindset by seeing knowledge about e-technology as learning that cannot be avoided if they must fit in and survive in the current e-technological race.

Keywords— E-learning, Vocational Educators, Effective Teaching, Audio-Visual Materials, Websites.

INTRODUCTION

Generally educational programme is a conscious attempt and effort by the nation to see that there is a positive change in its organizational set-up with a view to bringing about the economic, social and political growth, which in turn will reduce the condition of inequality and poverty in that nation. Going by the above perspective, such education programme must be a reflection of the national philosophy and objective as well as needs and aspirations of the individual and the society at large.

In view of that, there is a continuous need in the nation for well informed and critical teaching professionals who are knowledgeable, skillful, competent and committed enough to make that laudable venture as success. Based on the foregoing composition therefore, the importance of teacher education to the nation building should not be overstated such educational programme should aim at reforming the nation through the production of effective teachers who will then effect national development towards nation building, Afe (1990) amplifies this by stating that "teacher education is the bed rock for national development".

Wikipedia as cited in Okolocha (2010) sees education as encompassing teaching and learning specific skills and imparting knowledge, positive judgment and well develop wisdom which help to draw out, facilitate realization of self potentials and latent talent in individuals. Educational could also be seen as phenomena which depend on the general condition of the school within the community of practice; an action and activity that involve life-long learning which uses scientific approach in its delivery.

The use of scientific approach in education delivery has increased exponentially in the 21st century due to innovations in information and communication technology (ICT). Ani and Aheauzu (2008) state that "the transmission from point to electronic medium apart from resulting in a growth of electronic information has provided users with new tools and applications for information seeking and retrieval. Electronic resources are invaluable research tools that complement the print-based resources in a technical setting.

ICT is an umbrella term that includes any communication, devices, or application encompassing radio, television, cellular phones, computer and network hardware and software, satellites system and so on, as well as the various services and applications associated with them such as video conferencing and distance learning. ICT can be used to find, develop analyze and present information as well as model. E-

learning which is the thrust of this paper could be seen as a electronic mean of imparting and acquiring information, knowledge and skills using computer via internet and other ICT tools which may not necessarily involve physical contact between the teacher and the student.

Okolocha (2010) citing De Cubber (2004) sees E-learning as a form of learning that used electronic carrier which brings the right information (content) to the right individual or group at the right time. It is associated with computer-based learning, tele-learning and tele-conferencing (Osuala, 2004).

E-learning which has to do with ICT tools and internet facilities can make teaching and learning more efficient and productive by engendering a variety of tools to enhance and facilitate teachers professional activities through the effective use of internet, intranet, extranet, video tape, power point, overhead projector and a host of others. E-learning implementation will help to change the old pedagogical approach of the knowledge transmitter to a knowledge facilitator. This implies that the old pedagogy where students expect knowledge to be poured on them by their teachers has shown its limitations in a time when rapid changes require adaptation capacities and competence to think of creative solutions to concrete problems.

Reformation of national educational goals or formal change of the content of the programme may not positively improve education standard without changing the way teachers teach and the way students learn. E-learning tools reinforce learning and make for the application of knowledge gained and foster longer retention of information. E-learning devices have been in use in many developed and few developing counties of the world for individual instructions in and out of school. Some of these devices which use computer include internet, the World Wide Web (www), the electronic mail (e-mail), satellites, the handsets and fax. It helps to bring together students with similar interest or needs into a discussion area where they can receive help on particular problems. (Vassilera & Detus 2001).

The Nigerian government recognizes the importance of e-learning in improving the quantity of education when she articulated the e-education initiative with the objective of, among others (Agomuo, 2007 Citing FME, 2004).

   i. Enhancing access to quality education for all learners.
   ii. Improving the education delivery system using ICT tools in the teaching and learning processes,
   iii. Ensuring global competitive educational system using ICT as delivery system as being radicalized in developed and developing counties.

The foregoing shows that Nigeria is making frantic effort to be ICT Compliant since the trend has revolutionized all business related activities and the employment sector. The education industry of which vocational education is a part is not left out of the change arena. Vocational education is an education programmed that prepare its learners to acquire skills and competencies needed for entry level employment, setting up business and advancement in other related business of today.

This implies that institutions of higher learning through vocational education teachers must ensure quality teaching in line with the current global technological changes.

Despite the Nigerian government's effort to be ICT compliant, emphasis on e-education initiative and the global emphasis on e-learning, it is unfortunate that most vocational teacher educators especially at collages of education, still rely only on lectures and chalkboard methods for delivering their lessons to students even when learning topics are suitable for e-learning approach. Hence, the need to find out if actually e-learning has any relevance in teaching and the factors inhibiting its applicability in preparing vocational educators for effective teachings in collages of education in Nigeria.

STATEMENT OF THE PROBLEM

The study examined the e-learning as an effective tool for preparing Vocational Educators for effective teaching in colleges of Education in Nigeria. Often times many vocational students complain that their lecturers are very poor in their teaching. Followings thus, heads of departments, and deans of schools often received anonymous letters from students complaining about some of their lecturer not teaching them well. Although continuous and steady efforts have been made by researchers and school administration to determine the characteristic of effective teachers, issues concerning what their characteristic are, how to determine them, and how to utilize them have remained controversial issues. Notwithstanding the fact that most of vocational lecturers undergo similar professional and pedagogical training while in their tertiary institutions, yet it appears not all of them had grasped very well the science of good and effective teaching. Consequently, there appears to be some kinds of inequality in the teaching behaviors of vocational education lecturers. As a result of this, vocational education students perceived that some of their lecturers are extremely poor in teaching them and they are the ones who suffer the bad effects of their poor teaching. They study therefore examine the e-learning as an effective tool for preparing vocational educations for effective teaching in collages of education in Nigeria.

Research Questions
The following research questions were raised to guide the study:-

1. What is the relevance of e-learning as effective tools for preparing vocational educators for effective teaching in collages of education in Nigeria?
2. What factors inhibit the adoption of e-learning in preparing vocational educators for effective teaching in colleges of education in Nigeria?

Null Hypotheses
In line with research questions raised two null hypotheses was formulated and tested at 0.05 level of significance.
  i. The mean scores of vocational educators in Universities do not differ significantly from their counterpart in colleges of education on the relevance of e-learning as a tool for preparing vocational teachers in colleges of education in Nigeria.
  ii. The mean scores of male and female vocational educators in the universities, and colleges of education do not differ significantly on the factors inhibiting the adoption of e-learning in preparing vocational teachers in colleges of education in Nigeria.

Methodology
Survey research design was adopted for the study. Vocational educators from five higher institutions in Lagos State that offer vocational education programmed formed the population of the study. The population was made up of 75 vocational educators. No sample was taken. The instrument for data collection was a structured questionnaire containing 36 item-statement measured on four point scale. The consistency and reliability of the instrument was tested using Cronbach Alpha reliability test which yielded reliability co-efficient of 0.80. Data collected were analyzed using mean and Z-test. Results are presented in table 1-3.

Results
Research Question 1
What is the relevance of e-learning in preparing vocational teachers in university and collages of education in Nigeria?

Table 1: Shows that mean responses in descending order. All the possible area of relevance of e-learning to business teacher preparation listed were endorsed as relevant by the respondents of the 21 areas of relevance listed, respondents endorsed "facilitates information gathering and downloading through world wide web" as the most relevant aspect of e-learning in the preparing of business teachers while "facilitates teachers" use to computer software like MS word, spreadsheet etc in teaching and learning was second in relevance on the other hand e-learning capacity to enhance interactivity among students was the least rated in relevance in the preparation of vocational teachers.

Research question 2
What factors inhibit the adoption of e-learning in preparing vocational educators for effective teaching in collages of education in Nigeria?
Results presented in Table 2 show that, on the average, the respondents endorsed "lack of requisite skills in e-learning implementation" with a mean score of 3.41 as the highest factor inhibiting the adoption of e-learning in the preparation of vocational teachers. This was followed by "lack of funds to procure necessary technology for e-learning" and lack of requisite for e-learning" and lack of requisite e-learning infrastructure and ICT tools" with mean scores of 3.38 and 3.33 respectively. The respondents perceived "teachers inability to adapt to constant changes". Lack of specific curriculum benefits or resources for teachers" and "land of well designed e-learning syllabus" as the three least factors inhabiting the adoption of e-learning in preparing vocational teachers. These have lower mean scores of 2.73, 2.89 and 2.93 respectively.

Hypotheses Testing
Hypothesis 1
The mean scores of vocational educators in universities do not differ significantly from their counterpart in colleges of education on the relevance of e-learning as a tool for preparing vocational teachers in colleges of education in Nigeria.
Using Ztests, there was no significant difference between university teachers and teachers in colleges of education on the relevance of e-learning in preparing vocational teachers in collages of education in Nigeria.
Using 2-test, there was no significant difference between university teachers and teachers in colleges of education on the relevance of e-learning in preparing vocational teachers.
The calculated 2 valued of 12 out of the 13 items on relevance of e-learning were higher and found to be less than 2 critical value of 1.96. The null hypothesis of no significant difference was therefore not rejected.
This is an indication that both university and college of education vocational teachers are unanimous in their perception of the relevance of e-learning to the preparation of vocational teachers.

Hypothesis 2
The mean scores of male and female vocational educators in the colleges of education do not differ significantly on the factors inhibiting the adoption of e-learning in preparing vocational teachers in collages of education in Nigeria.
Using Z test, there was no significant between male and female vocational education teachers on the factors inhibiting the adoption of e-learning in preparing vocational teachers.
The calculated Z values of 11 out of 15 factors were less than the z-critical value of 1.96. The null

hypothesis of no significant difference was therefore rejected (see table 3)

DISCUSSION

The result of the analysis in Table 1 revealed that all the 21 items listed attracted mean scores above 2.50 which proved that e-learning is aneffective tool for preparing vocational education teachers especially now that business industries and offices are going online. The item which state that e-learning facilitates information gathering and downloading attracted the highest mean response followed by that on facilitating teacher's use of computer software in teaching and learning. The findings collaborate the views of Ikelegbe (2000) who noted that education in Nigeria cannot be relevant without effective preparations of new generation of pupils and students to effectively use the new information and communication technologies in their professional practices. The item which states that e-learning enhances interactivity among students was the least rated with the mean score of 2.81.

This might be because of the low level of ICT competency skills and usage in Nigeria, coupled with high poverty level.

The results in Table 2 indicated lack of requisite skill in e-learning implementation, lack of fund to procure necessary technology for e-learning by vocational teacher educators. The findings are in agreement with the results of a study carried out by Okolocha (2010). The report indicated that most teachers are novices or completely inexperienced in the use of computer and internet for classroom instruction while only one third for teachers studied indicated that they were prepared to use computer and internet. Item by item test of hypotheses in Table 3 reveal that vocational educators in universities and colleges of education as well as male and female vocational teachers educators do not differ significantly on the relevance of e-learning as well as factors inhibiting the adoption of e-learning in preparing vocational teachers.

CONCLUSION

From the findings, it is concluded that the promotion of vocational education teachers require acquisition of appropriate e-skills by the use of appropriate e-learning facilities in preparing vocational education teachers. vocational education programmed through vocational teacher educator can only achieve its mission and vision statements of preparing its recipients for office work of today and tomorrow as well as ensuring that its recipients establish, survive and remain in business of their choice, only when vocational educators follow the current societal trend by adopting e-learning in preparing teacher especially now that virtually everything we claim we know is going online globally.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

i. For effective adoptions of e-learning to prevail, vocational teachers educators and student must change their mindset by viewing knowledge about e-technology as learning that cannot be avoided if they must fit in and survive in the current e-technology race.

ii. Computer and internet studies need to be properly integrated into the curriculum of vocational education so that both teachers and students will see it as a serious business.

iii. Vocational educators need to embark on self training in order to acquire relevant skills and knowledge needed in e-learning implementation since they cannot effectively join the e-era race without "e" knowledge and implementation

iv. The head of department of vocational education programmes should liaise with the management of their respective institutions to ensure that appropriate e-learning facilities for efficient teaching and learning of business courses are provided.

v. The accreditation agency (Nigerian University Commission and the National Commission for colleges of education) should include in their accreditation requirements internet connectivity for institutions. This will help to pave way for e-learning implementation.

vi. The government should fund education as and when due. That will help the institutional heads to procure all the necessary ICT facilities needed in the education of the young ones.

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Appendix 1

Table 1: Mean Responses of Vocational Teacher Educators on the relevance of 3-learning in preparing Business Teachers.

	Relevance of e-learning	Mean	S D
1.	Facilitates information gathering and downloading through internet world wide web.	3.65	0.57
2.	Facilitated teachers use to computer software like Ms-word, spreadsheet etc in teaching and learning.	3.54	0.62
3.	Facilitates the creation of effective online delivery of lecture	3.44	0.67
4.	Facilitates students' individualized learning	3.44	0.67
5.	Provides real opportunity for independent study and instructions.	3.41	0.56
6.	Makes learning more enjoyable and practicable.	3.40	0.71
7.	Facilitates communication through the use of Local Area Network (LAN)	3.40	0.64
8.	Helps in developing vocational teacher skills and competencies needed in today's business and office tasks.	3.40	0.81
9.	Facilitates teachers design and explanations of lecture topic by making it clearer through the use of slide show.	3.37	0.66
10.	Bears the potentials of widening access to education by diversifying ways to access education content	3.35	0.70
11.	Make teaching and learning convenient to both teachers and student	3.33	0.82
12.	Helps students to receive online feedback to their assignment through e-mail, view	3.30	0.71
13.	Encourages teachers to give online assignment	3.29	0.68
14.	Facilitates teacher awareness and utilization of computer user oriented language (Basic Cobol, Fortran etc).	3.29	0.75
15.	Encourages student to work in a dynamic learning environments which facilitate knowledge construction	3.27	0.83
16.	Helps to provide facilities for learners to operate at multi-level learning modes that promote autonomy, initiative spirit and term work	3.25	0.82
17.	Sharpens the learners' senses in understanding the topic of discussion	3.22	0.71
18.	Provides opportunity for students to be reflective and thoughtful in their topic discussions.	3.16	0.75
19.	Helps the teacher to select and utilize suitable technique for online assessment of student performance.	3.14	0.82
20.	Offers great opportunity to provide more training to more students at more places.	3.13	0.87
21.	Enhance interactivity among students.	2.81	1.06

Table 2: Mean Responses of Vocational Educators on factor inhibiting the Adoption of E-learning in Preparing Vocational Education Teachers.

S/N	Factors Inhibiting the adoption of e-learning	Mean	S D
1.	Lack of requisite skills in e-learning implementation.	3.41	0.73
2.	Lack of funds to procure necessary technology for e-learning	3.38	0.83
3.	Lack of requisite e-learning infrastructure and ICT tools	3.33	0.86
4.	Non-availability of automated laboratory	3.32	0.91
5.	Lack of requite skills to access information online	3.32	0.77
6.	Individual's economic crisis inhibits them from acquiring internet resources for e-learning.	3.24	0.82
7.	Lack of in-service training to prepare teachers for e-learning implementation	3.19	0.84
8.	Deficient pre-service preparation to teachers in technology.	3.16	0.83
9.	Lack of requisite skills to select and use appropriate evaluation technique for student online assignment assessment.	3.14	0.95
10.	Lack of willingness by administration to realign school budgets to include computational technology.	3.14	0.91
11.	Non-availability of internet connectivity.	3.14	0.93
12.	Lack of policy statement by the institution on the adoption of e-learning	3.03	0.84
13.	Lack of well-designed e-learning syllabus.	2.94	0.01
14.	Lack of specific curriculum benefits or resources for teachers	2.89	0.95
15.	Teachers inability to adapt to constant changes	2.73	1.00

Table 3: Z-test comparison of Mean Responses of Maleand Female Vocational Teachers on the Relevance of E-learning for preparing Business Teachers.

S/N	Relevance of e-learning	Sex	Mean	S D	Z-Cal	Z-Crit	Decision
1	Facilitates information gathering and downloading through world wide web	Male Female	3.64 3.65	0.05 0.60	-.065	1.96	N S
2	Facilitate teachers use of computer software like MS word, spreadsheet etc in teaching and learning	Male Female	3.57 3.53	0.51 0.65	.246	1.96	N S
3	Facilitates the creation of effective online delivery of lecture	Male Female	3.36 3.47	1.50 0.71	-.672	1.96	N S
4	Facilitates students' individualized learning.	Male Female	3.57 3.41	0.51 0.70	1.61	1.96	N S
5	Provides real opportunity for independent study and instructions	Male Female	1.11 3.42	0.50 0.58	4.57	1.95	N S
6	Makes learning more enjoyable and practicable	Male Female	3.36 3.41	0.50 0.76	-.298	1.96	N S
7	Facilitates communication through the use of Local Area Network (LAN)	Male Female	3.50 3.37	0.52 0.69	.789	1.96	N S
8	Helps in developing business teachers' skills and competencies needed in today's business and office tasks	Male Female	3.07 3.49	0.99 0.74	-1.459	1.96	N S
9	Facilitates teachers design and explanation of lecture topic by making it clearer through the use of slide show	Male Female	3.07 3.45	0.27 0.71	-3.048	1.96	N S
10	Bears the potentials of widening access to education by diversifying ways to access education content	Male Female	3.14 3.14	0.86 0.64	-1.067	1.96	N S
11	Makes teaching and learning convenient to both teachers and student	Male Female	3.36 3.33	1.50 0.90	.166	1.96	N S
12	Helps students to receive online feedback to their assignment through e-mail, view	Male Female	3.36 3.29	1.50 0.76	0.54	1.96	N S
13	Encourage teachers to give online assignment to the students.	Male Female	3.29 3.29	0.47 0.74	.000	1.96	N S
14	Facilitates teacher awareness and utilization of computer user oriented language (Basic, Cobol, Fortran etc)	Male Female	3.36 3.27	0.93 0.70	.343	1.96	N S
15	Encourages students to work in a dynamic learning environment which facilitates knowledge construction.	Male Female	3.21 3.20	0.70 0.76	-.100	1.96	N S

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