

Challenges Associated with the Use of E-Learning Among Pre-Service Business Education Teachers in Colleges of Education in North East Nigeria

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Abstract

The paper examines the challenges associated with the use of e-learning in Colleges of Education in North East Nigeria. Particular attention is focused on differences in the pre-service business education teachers' perception based on gender and institutional affiliation. Data for this research came from a sample of 546 pre-service business education teachers drawn from five Colleges of Education in the study area. A survey research design was adopted for the study. The reliability coefficient of the questionnaire used for data collection is 0.89. Five research assistants administered the questionnaire, and data collected were analysed using frequency counts and percentages, mean, t-test, one-way analysis of variance (ANOVA) and Scheffe test of multiple comparison. Results showed that regardless of institutional affiliation, the pre-service business education teachers had considerable agreement that lecturers' preference for lecture method, and the non-provision of hands-on-IT training on the campus constitute the top most challenge hindering the use of e-learning. Gender and institutional affiliation are statistically significant factors in the mean ratings of pre-service business education teachers regarding the extent to which they experience challenges in the use of e-learning. Based on the results, it was recommended among others that the proprietors of Colleges of Education in North East Nigeria should renew their commitments to education by striving to provide the Colleges with teaching, infrastructure and organizational capacity to implement e-learning effectively and efficiently.

Keywords: Challenges, E-learning, Nigeria, Pre-service business teacher education, ICT.

1. Introduction

With the advent of globalization and emergence of information and communication technologies (ICT's), teacher education institutions throughout the world are faced with the challenges of introducing reform in the traditional structure and content of their education and training delivery methods and preparing teachers to adapt to changes. Lewis (n. d.) has shown that the emergence of ICT has created the need for more diversified skills from teachers, which in turn demands a new kind of education and training program. Keller (as cited in Verezub, Grossi, Howard and Swinburne, 2008) has argued that the ICT revolution brings the opportunity to shape literacy skills in education to better serve democratic needs and prepare citizens for a global multicultural world. It has created changes in work and brought about uncertainty.

Today, ICT has become an indispensable component of teaching jobs worldwide. In fact, the expectation is that as we progress into the 21st century, the role of ICT in teaching and learning will expand. In view of this, Abdullahi (2008) reported that teachers "should not only be computer literate themselves, they should also know how to use computers for effective teaching in their classrooms" p.6

Literature on the use of modern teaching tools (Bansal 2008) has shown that a pre-service teacher who has proficiency in ICT and some experience in integrating ICT during his or her initial teacher training will be more inclined to integrate ICT into his/her future teaching. In order to prepare the pre-service teachers for their future role as teachers in a rapidly changing technological society, the Federal Republic of Nigeria (FRN, 2013) has stated that "information technology (IT) shall be incorporated into all teacher training programs" pp.56-57. Towards this direction, the government has emphasized the need to "provide facilities and necessary infrastructure for the promotion of information technology (IT) at all levels of education in Nigeria" p.72.

As part of its reform strategy, the National Commission for Colleges of Education (NCCE, 2002) has made computer education compulsory course in Colleges of Education in Nigeria and has also provided some facilities for them to digitize their libraries. The expectation is that every graduate of Colleges of Education in Nigeria will be computer literate and should also be able to exploit the advantages of technology enhanced teaching and learning, including internet, virtual libraries and e-learning.

E-learning has become one of the most common means of using ICT to provide education and training to learners, both on and off-campus (Takalani, 2008). E-learning may be defined as the use of electronic media to deliver instructional contents to learners regardless of the locations. E-learning involves the use of GSM, Radio and Television broadcast, Internet, Intranet, Audio, Video, Tape, CD-ROMs and DVD and so on to provide learning at a distance.

E-learning can be explained as technology based learning in which learning materials are delivered

electronically to remote learners via computer network (Zhao, Zhon and Nunamakar, as cited in Okigbo and Ndolo, 2011). In Nigeria today, e-learning is considered by many scholars “as a critical strategy among institutions eager to provide affordable, efficient and flexible learning environment for rapidly growing and diverse communities of learners” (Liverpool, Marut & Ndam, 2009 p.2). With e-learning, learners can reach out to fellow colleagues, receive educational materials from the teacher, submit assignments through the internet technology at their own pace, take tests and receive feedback. Teachers can also reach out to students (Jegede, 2009).

Among other benefits or advantages of e-learning, which make it indispensable to teaching and learning are that, it improves access to quality education and information; interaction between students and teachers is enhanced; there is opportunity for acquisition of up-to-date technological skills; there is greater collaboration among academics; learners have control over contents; there is prospect of self-learning and learning can take place anytime, anywhere; tracking of learners’ progress is made easier; learners are exposed to standard course content and the learning content can easily be updated (Olaniyi, 2006; Oguzor, 2011). These features of e-learning have crucial role to play in providing learner centered and demand-driven vocational educational program such as business education.

Business Education is a vocational program designed with the primary purpose of upgrading skills, attitudes, and knowledge required to enter into and to make progress in broad occupations such as management and office technology education, accounting education, marketing and distributive education or other similar business pursuits (Azuka, Nwosu, Kanu & Agomuo, 2006; Udo, 2016). Anao (as cited in Udo, 2016) defines business education as educational content with the primary aim of preparing people to perform successfully as, employee in public offices, promoter and administrator of business enterprises, entrepreneur, employer and producer of goods and services.

Accordingly, pre-service business education teachers are students who are being prepared to teach business subjects at secondary schools level and other related educational institutions as well as to engage in life of work in offices in business occupations, or in self-employment. The extent to which the Colleges of Education in Nigeria produce the highly motivated, conscientious and efficient Nigerian Certificate in Education (NCE Business Education) graduates desired by the national policy on education (FRN 2013) depends critically upon the availability, ease of access, and appropriate level of exposure of pre-service teachers to an appropriate e-learning infrastructure and environment.

Although the pre-service business education teachers are aware of the potentials of e-learning as one of the most common means of using ICT to drive education system (Kamba, 2009; Enemali 2012), little is known about the challenges that pre-service business education teachers experience on e-learning platform, especially in Colleges of Education in North East Nigeria. It is necessary to understand the challenges affecting the use of e-learning in order to take advantage of its benefits. The detection of these challenges will provide useful insight into solutions that will promote future successful pedagogical integration of e-learning in Nigeria tertiary education institutions.

The study, therefore was designed to find out answers to this research question: What are the challenges facing the pre-service business education teachers in their exposure to the use of electronic learning in Colleges of Education in North East Nigeria? The following null hypotheses guided the study:

- HO₁ Pre-service business education teacher’s gender is not a significant factor in their mean ratings on the extent to which they experience challenges in the use of electronic learning in Colleges of Education in North East Nigeria.
- HO₂ The influence of institutional affiliation on pre-service business education teachers’ mean ratings on the extent to which they experience challenges in the use of electronic learning in Colleges of Education in North East Nigeria is equal to zero.

2. Literature Review

Although e-learning is considered by scholars as having the potential to influence teaching and learning positively, certain factors may be hampering its successful implementation. Bansal (2008) reported that the most cited barriers to the use of computers and the internet for instruction by public school teachers in Sweden were insufficient number of computers, lack of release time for teachers to learn how to use computers or the internet and lack of time to schedule students to use computer in class. Other barriers were lack of good instructional software, difficult internet access, lack of training opportunities, lack of adequate equipment and support.

Ezike, Olabiyisi, Akinwumii, and Shakirat, (2009) analyzed the approach being adopted for the implementation of distance and open learning in Nigeria by National Open University of Nigeria (NOUN) and reported that the challenges include: inadequate funding, misconception of the concept of open and distance learning, failure of the Nigeria elite to embrace it, low readiness level and poor distribution of course materials, poor communication infrastructure particularly in rural areas. Adekiigbe, Awotidebe and Amosa (2009) examined the problems and challenges of Digital Libraries in Nigeria and reported that there is no stable

electricity supplies, no air conditioned rooms where ICT facilities are kept, no qualified technicians and inadequate attention to repair of facilities. Adekiigbe *et al* concluded that if a country or an institution is deficient in part or whole of such basic facilities, deploying digital library might prove difficult. Adeyanju *et al.* (2009) have concluded that although ICT is useful, the opportunities that they offer mankind have not been fully exploited by the Nigeria educational system due to unreliable power supply, lack of maintenance culture, inadequate e-learning infrastructure and technical expertise.

One of the challenges in African schools reported by Matengu (2007) is the question of how to solve the barriers to the adoption of ICT by schools. Such barriers are connected to social, economic, political and absence of network. Matengu emphasized that even if the devices and technologies exist in a country, most African schools lack the capacity to use what is learned for development.

Adeyimi (2008) has concluded that while e-learning has a lot of opportunities and advantages over traditional methods, certain impediments can hamper its successful delivery in a country. These include: lack of e-teachers, lack of political will especially among those in authority, failure to get-students ready for e-learning, lack of support to reduce cost of computing hardware, energy problems, and poor e-curriculum.

Olaniyi (2006) examined the Nigeria's experience in e-technology and reported that the obstacles militating against its use are: high cost of hardware in Africa, high import tariffs and less price competition, transmission cost is high in Africa, internet access in Africa is through a foreign gateway, shortage of skilled manpower, companies and institutions are reluctant to invest in training of staff due to the likelihood that trained staff will be employed by other institutions and companies, Africa has the lowest number of telephone lines per capital in the world, existing telecommunication infrastructure is in very poor condition, computer technology illiteracy among the students from primary school level, high cost of acquiring, installing the gadget required for e-learning, unstable power supply, lack of affordable and dedicated or specialized e-learning centres.

Asogwa (2011) reviewed the challenges of optimizing e-learning opportunities for effective instructional delivery in University of Nigeria, Nsukka and reported the following constraints: unsteady power supply, inadequate funds for steady internet connectivity and for purchasing computer hardware and software, lack of basic computer skills and corruption.

Ezeahurukwe and Johnson (2011) carried out a study on the Nigerian teachers and the challenges of utilization of e-learning for instruction in tertiary institutions. The objectives of the study were among others, examine the extent to which teachers in Lagos state tertiary institutions receive training in the use of e-learning in their teaching, identify e-learning facilities available as well as the challenges faced by the teachers in training and use of e-learning. The research design was a descriptive survey. A sample of 300 participants was randomly selected from six tertiary institutions in Lagos State. A questionnaire was designed by the researcher and used for data collection for the study. Frequency counts, percentages, mean and standard deviation were used to analyse data. The results of data analyses indicated that the training teachers received do not meet their needs for effective use of e-learning in the institutions, e-learning facilities are not adequate and accessible and teachers are faced with serious challenges that hinder their use of e-learning. Based on the results, it was recommended among others that there should be a well prepared staff development program on the use of e-learning for teachers.

Ogechi (2011) studied the problems hindering the introduction of e-learning in primary schools in Enugu State, Nigeria. A survey research design was adopted for the study. The researcher used a sample of 594 out of a population of 1,188 head teachers. A 15-item structured questionnaire based on a four point rating scale used for data was analysed using mean, standard deviation and t-test statistics. The results indicated that there were inadequate infrastructure and staff to support e-learning; and there is no significant difference between the mean opinions of rural and urban head teachers on the challenges hindering the introduction of e-learning in Enugu State primary schools.

Takalani (2008) identified barriers to e-learning among postgraduate black students in Higher education in South Africa. The research design for the study was qualitative. The study comprised 20 e-learners and two lecturers, who played the roles of program facilitators and content developers. Purposive or judgmental sampling technique was used and the participants were selected on the basis of accessibility. The sample comprised a group of e-learners that are based in Pretoria in Gauteng province where the researcher himself is based.

The meetings with the learners were video-taped to prevent ethical dilemmas to emerge in this study. The researcher explained to the participants what the purpose of the study was. The participants gave verbal consent before the study was conducted and they were assured that their names or institution would not appear anywhere in the report. During the interviews, participants were told to notify the researcher if they were not comfortable to discuss certain issues or information and they were not to answer any question that compromised them in anyway. The study found among others that, most learners did not have computer skills when they registered for the program, the lack of computer among learners reduced the success rate and increased the drop-out rate, due to heavy work load and busy schedules, instructors are not always available for academic support, most of the

learners do not have personal computers that they can use at their homes, bandwidth problems: Downloading of files was slow and this affected learning activities and completion of assignments, physical distraction from surrounding people and surfing of internet disturbed the learning process, course instructors are not given the rewards that are consistent with the demands of online course development and this affected their commitment and quality of course materials, there are constant power (electricity) cuts especially in winter months due to power shortages in the province.

Bashir and Gronlund (2007) carried out case studies on the efforts to activate e-learning in Kenya and Uganda schools. In Kenya, the authors reported that, the financial resources to assist in training for capacity building, software licenses and hardware are needed to maintain the momentum, sensitization of ICT is still low, further challenging the process of integrating e-learning in schools, there is the low literacy level among the teaching staff, which in itself provides real challenge in embracing ICT in schools, the utilization of appropriate software in learning institutions to further the goals of education is low, the concept of e-learning itself is not well understood, as to most, it is about having a computer and access to internet. In Uganda, schools in the rural areas face most of the challenges affecting e-learning in Africa, especially as it relates to providing high-tech solutions in low-tech environments.

Gachago and Mafote (2007) assessed the effectiveness of the e-learning certificate workshop in the Centre for Academic Development (CAD) at the University of Botswana (UB). The study was of mixed design involving both quantitative and qualitative data analyses. The study was carried out between May and July 2005 and was funded by Office for Research, United Kingdom. A total of 771 E-learning Certificate Module Evaluation Questionnaires developed by the researchers were sent out to staff who had participated in one or more of the workshops by e-mail. Quantitative data collected were analysed using frequency counts and percentages with the aid of SPSS v. 12 for windows. On application of skills learned from the workshop, 23.2 percent of the participants that had completed the certificate workshop indicated that they had not put into practice any training they had received from the workshop due to, time constraints, preference of traditional teaching/learning method, limited facilities at faculty level, and limited accessibility to internet for students.

2.1 Methodology

The research design for this study is a sample survey research. A sample survey research is a study in which a researcher infers information about a population of interest based on the responses of a sample drawn from that population (Gay, 1996). In this study, attempt was made to examine the challenges associated with the use of e-learning among pre-service business education teachers in Colleges of Education in North East Nigeria. The study involves the use of questionnaire to collect data from randomly selected pre-service business education teachers in order to test the null hypotheses and to answer the research question.

The area of the study covers five states in North East Nigeria where the seven Colleges of Education (C. O. Es) are located. The area covered are: Azare (Bauchi State), Gombe (Gombe State), Hong (Adamawa State), Yola (Adamawa State), Potiskum (Yobe State), and Zing (Taraba State). The researcher decided to choose this area because there seem to be a dearth of studies related to e-learning in this part of the country. The population for this study comprised all the 1,003 NCE III (final year) pre-service business education teachers from the Colleges of Education selected for the study.

A total of 546 pre-service business education teachers drawn from five Colleges of Education constituted the sample for the study. This represented one College of Education from five states selected for the study. Since Yobe and Adamawa states have more than one College of Education, a simple random sampling method (Nworgu, 1991) was adopted in selecting one College from each of the two states. Thereafter, a sample of the final year pre-service business education teachers in the resulting five Colleges of Education was randomly selected using the Krejcie and Morgan Table for determining needed sizes of randomly chosen sample (S) from a finite population (N) (Isaac & Michael, 1983). On the table, entries for the required sample sizes are provided in a column alongside the corresponding populations of a given size. For example, the sample size of 59 teachers would be needed from a finite population of 70 teachers so that there will be a 95 per cent level of confidence.

A structured questionnaire developed by the researcher was used for data collection for this study. The title of the questionnaire is Electronic Learning Among Pre-service Business Education Teachers Questionnaire (ELAPBETQ). The structured questionnaire comprised 17 items that could be associated with the challenges being experienced by the pre-service business education teachers on e-learning.

The questionnaire was divided into two sections. Section A dealt with demographic data. In this section, the participants were required to tick (✓) the options that apply to them. Section B covered the challenges faced by pre-service business education teachers in the use of e-learning. In this section, the participants were asked to indicate their responses by checking (✓) the level of their agreement on a four point rating scale as follows: Strongly Agree (SA) = 4 points, meaning that they experience very high challenge; Agree (A) = 3 points, implying that they experience high challenge; Disagree (D) = 2 points, meaning that they face low challenge; and, Strongly Disagree (SD) = 1 point, indicating that they experience no challenge.

The questionnaire for data collection for this study was validated by three experts. The first expert is in educational research and evaluation; the second expert is a specialist in Computer Science Education; and the third expert is in Computer Science, from Abubakar Tafawa Balewa University (ATBU) Bauchi. The experts were required to ensure that the items provide adequate answers to the research questions. They were also asked to review the questionnaire in terms of clarity, appropriateness of terms, organization, expressions, and correctness of spellings. In order to achieve the objectives of the study, the experts were given free hand to either remove any item they considered irrelevant or add any other items they consider important but were not reflected in the questionnaire. Based on their inputs, corrections were made in the spellings of some terms.

As part of the validation exercise, a pilot test was carried out outside the research area. The questionnaire for the pilot test was administered to a sample of 66 pre-service business education teachers from one of the Colleges of Education in Plateau State, Nigeria, outside the study area by one research assistant. The College of Education and the pre-service business education teachers used for the pilot test were selected using simple random sampling procedure. Out of the 66 copies of the questionnaire administered to the pre-service business education teachers, 55 (representing 83.33 per cent) were returned. The entire 55 copies of the questionnaire were used.

The reliability of the questionnaire used for the study was obtained through the pilot test. Data gathered were analysed using Cronbach's alpha, also referred to as coefficient alpha. Gay (1996) advised that if items are scored such that different answers are worth different numbers of points, for example, 0, 1, 2 or 3, Cronbach's alpha can be used. The results showed positive reliability coefficient of 0.89, and this was considered high enough and showed that the questionnaire can be used to determine the challenges associated with the use of electronic learning.

The questionnaire used for data collection for this study was administered to the pre-service business education teachers with the aid of trained research assistants. The research assistants were five in number. They were briefed on the purpose of the study and on the participants for the study. Each copy of the questionnaire was accompanied by a letter introducing the researcher and the purpose of the study. Both the assistants and the participants were quite cooperative. The result of their efforts was high return rate and satisfactory completion of the returned copies of the questionnaire. Out of the 546 copies of the questionnaire distributed to pre-service business education teachers in Colleges of Education in North East Nigeria, 484 (representing 88.64 %) were returned. The entire 484 were used.

The data collected by use of the structured questionnaire were analysed using frequency counts and percentages, mean, t-test, and one-way analysis of variance (ANOVA). Demographic Information on gender and institutional affiliation were collected from the pre-service business education teachers in order to group the data for testing the hypotheses. In this study, the institutions are the five Colleges of Education that were used as the unit of analysis. The t-test statistic was used to analyse the null hypothesis number one. As espoused by Isaac and Michael (1983), the t-test can be used to satisfactorily determine a significant difference between two large samples. The null hypothesis number two was analysed using one-way analysis of variance (ANOVA), with institutional affiliation type as independent variable and challenges teachers experience as dependent variable. ANOVA appeared appropriate because "its results is relatively unaffected by violation of its underlying assumptions (Downie and Health, 1974). Also, Scheffé test of multiple comparison was employed to locate the group means that are different or are responsible for significant mean score differences. Scheffé method was employed because it is more rigorous than other multiple comparisons methods, with regards to type 1 error. Also, it is easy to apply and is not seriously affected by violation of the assumptions of normality and homogeneity of variance (Ferguson, 1981).

As the basis for decision, the null hypotheses stated for the study were rejected if the calculated value of the t-test statistic is greater than the probability value or value of the significant level. Data collected through the use of the rating scale were interpreted relative to the real upper and the real lower limits of numbers. For the different numbers of points, 1, 2, 3 and 4, the real lower and the real upper limits of the numbers are as follows: 1 represents the interval between 0.50 and 1.49; 2 represents the interval between 1.50 and 2.49; 3 represents the interval between 2.50 and 3.49; and 4 represents the interval between 3.50 and 4.49. The test statistics were analyzed with the aid of Statistical Package for Social Sciences (SPSS) Version 20.

2.2 Results

Table 1: Challenges that the Pre-service Business Education Teachers Experience in their Exposure to the Use of e-learning

S/N	Challenges	\bar{x}_p n=82	\bar{x}_z n=88	\bar{x}_g n=132	\bar{x}_a n=56	\bar{x}_y n=126	\bar{x}_t N=484	Remark
1.	On-campus practical training on how to use computer are not provided	2.33	1.50	1.60	1.70	1.67	1.74	High Challenge
2.	Internet services in the college are not reliable	2.27	1.55	1.39	1.70	1.56	1.65	High Challenge
3.	The number of computers connected to world wide web in the college designated centres are in-adequate	2.01	1.47	1.47	1.63	1.57	1.61	High Challenge
4.	I do not have money to buy personal computer for use at home	2.23	1.53	1.37	1.59	1.69	1.66	High Challenge
5.	e-learning infrastructure such as scanners, digital camera etc. are in-adequate	2.15	1.57	1.42	1.68	1.60	1.64	High Challenge
6.	Multimedia projectors are not readily available	2.05	1.61	1.42	1.64	1.75	1.68	High Challenge
7.	Instructors are not readily available to provide support services	2.17	1.57	1.49	1.55	1.79	1.71	High Challenge
8.	Power (electricity) is not stable	2.17	1.54	1.21	1.68	1.47	1.56	High Challenge
9.	The downloading of relevant materials from internet is slow (low bandwidth problem)	2.35	1.55	1.49	1.73	1.46	1.67	High Challenge
10.	Cost of air time in using internet is high	2.07	1.61	1.41	1.52	1.45	1.58	High Challenge
11.	e-learning infrastructure are not regularly maintained	2.32	1.59	1.42	1.68	1.47	1.65	High Challenge
12.	e-learning infrastructure are not functional	1.94	1.58	1.48	1.52	1.44	1.57	High Challenge
13.	Interaction with teachers through College wide area network (WAN) is difficult	2.22	1.50	1.45	1.57	1.67	1.66	High Challenge
14.	There is too much restriction in using e-learning devices in the college	2.00	1.48	1.58	1.27	1.52	1.58	High Challenge
15.	Lecturers prefer lecture method of teaching.	2.61	1.70	1.58	2.11	1.86	1.91	High Challenge
16.	Interactions with colleagues through College Wide Area Network is problematic.	2.15	1.58	1.69	1.75	1.67	1.75	High Challenge
17.	Lecturers do not make regular use of ICT in their classroom teaching.	2.05	1.73	1.44	1.63	1.57	1.64	High Challenge
		1.47	1.57	1.47	1.64	1.60	1.66	High Challenge

Key:

\bar{x}_p = Mean responses of pre-service business education teachers in Federal College of Education (Technical) Potiskum.

\bar{x}_z = Mean responses of pre-service business education teachers in College of Education Zing.

\bar{x}_g = Mean responses of pre-service business education teachers in Federal College of Education (Technical) Gombe.

\bar{x}_a = Mean responses of pre-service business education teachers in College of Education Azare.

\bar{x}_y = Mean responses of pre-service business education teachers in Federal College of Education Yola.

\bar{x}_t = Total mean responses on each item of the questionnaire.

n = Number of pre-service business education teachers in each College of Education.

N = Total number of pre-service business education teachers in all the Colleges of Education.

Data presented in Table 1 revealed that the pre-service business education teachers in Colleges of Education in North East Nigeria agreed that they are experiencing high level of challenges in all the 17 items in their exposure to the use of e-learning. However, the pre-service business education teachers from the FCOE (Technical) Gombe accepted that they faced low challenge in 13 out of the 17 items identified under this section in their exposure to the use of electronic learning. Similarly, the pre-service business education teachers from the COE Azare agreed that they face low challenge in one out of the 17 items in their exposure to e-learning. It can be seen that both group of pre-service business education teachers for this study unanimously agreed that item 15 (lecturers prefer lecture method of teaching) as the top most challenge facing the use of e-learning in their institutions. This was followed by item 1 (private-off-campus practical training on how to use computer is not provided). Three Colleges of Education are also in agreement that item 9 (the downloading of relevant materials from internet is slow – bandwidth problem), item 12 (e-learning infrastructure are not functional), item 16 (interactions with colleagues through the College Wide Area Network is problematic) are among the top five challenges faced in their exposure to the use of e-learning in their Colleges.

Table 2 Summary of t-test Analysis for Influence of Gender on Pre-service Business Education Teachers' Rating Concerning the Extent to which they Experience Challenges

Group	N	Mean	Std. Dev.	Mean Diff.	Std. Err diff	Df	T	Sig
Male	158	1.698	1.057					
Female	326	1.644	1.079	.054	.104	482	.687	.454
Total	484							

Table 2 revealed the t-test comparison of the mean ratings for influence of gender of the pre-service business education teachers on the extent to which they experience challenges in the use of electronic learning in Colleges of Education in North East Nigeria. The said Table shows that the t-value ($t=0.687$, $df=482$, $P<0.5$) was statistically significant at 0.05 alpha level. This shows that the mean ratings of the two groups on the extent to which they experience challenges in the use of e-learning in Colleges of Education in North East Nigeria are significantly different. Therefore, the null hypothesis number one was rejected. In other words, gender significantly influenced the observed mean differences in the ratings of the pre-service business education teachers on the extent to which they experience challenges in the use of e-learning within their institutions.

Table 3: Summary of One-Way ANOVA for Influence of Institutional Affiliation on Pre-service Business Education Teachers' Ratings Regarding the Challenges they Experience

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	32.499294	4	8.1248	7.4475	.001
Within Groups	523.183294	479	1.0923		
Total	555.682588	483			

Table 3 examined the differences in mean scores on data relating to the influence of institutional affiliation on pre-service business education teachers rating regarding the extent to which they experience challenges in the use of e-learning in Colleges of Education in North East Nigeria. The said Table shows that the ANOVA test ($F=7.448$, $df=4, 479$, $P<0.05$) was statistically significant at 0.05 alpha level. Therefore, the null hypothesis number four was rejected. In other words the mean scores of the five Colleges of Education for this study are significantly different. This implies that institutional affiliation influenced the mean responses of pre-service business education teachers regarding the extent to which they experience challenges in the use of e-learning in Colleges of Education in North East Nigeria.

Table 4: Scheffe Test of Post Hoc Multiple Comparisons

Dependent Variable	(I) Colleges	(J) Colleges	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Challenges Teachers Encounter	1.00	2.00	.83*	.17	.00	.30	1.36
		3.00	.72*	.16	.00	.24	1.21
		4.00	.63*	.19	.03	.04	1.23
		5.00	.65*	.16	.00	.17	1.14
	2.00	1.00	-.83*	.17	.00	-1.36	-.30
		3.00	-.11	.15	.98	-.58	.37
		4.00	-.20	.19	.90	-.79	.39
	3.00	5.00	-.17	.15	.87	-.65	.30
		1.00	-.72*	.16	.00	-1.21	-.24
		2.00	.11	.15	.98	-.37	.58
	4.00	4.00	-.09	.18	.99	-.64	.46
		5.00	-.07	.14	.99	-.50	.36
		1.00	-.63*	.19	.03	-1.23	-.04
		2.00	.20	.19	.90	-.39	.79
		3.00	.09	.18	.99	-.46	.64
	5.00	5.00	.02	.18	1.00	-.53	.58
		1.00	-.65*	.16	.00	-1.14	-.17
		2.00	.17	.15	.87	-.30	.65
		3.00	.07	.14	.99	-.36	.50
			4.00	-.02	.18	1.00	-.58

*.The mean difference is significant at the 0.05 level.

1 FCE(T) Potiskum, 2. COE Zing, 3. FCE(T) Gombe, 4. COE Azare, 5. FCE(T) Yola

Table 4 shows the Scheffe test to determine the group means that are different. The said Table indicates that the group means difference between FCOE (Technical) Potiskum and the group means of other four COEs under study is significant at 0.05 alpha levels. In other words, there is a significant difference between a pair of group means as follows: FCOE (Technical) Potiskum and COE Zing, $P = 0.83 (< 0.05)$; FCOE(Technical) Potiskum and FCOE (Technical) Gombe, $P = 0.72 (< 0.05)$; FCOE (Technical) Potiskum and COE Azare, $P = 0.63 (< 0.05)$; and FCOE (Technical) Potiskum and COE Yola, $P = 0.66 (< 0.05)$. Therefore, the group mean of FCOE (Technical) Potiskum contributed significantly to the difference in the group means of other four Colleges of Education, since all its significant levels or probability values are greater than 0.05.

3. Summary of Findings

Highlights of the findings are as follows:

1. Regardless of institutional affiliation, the pre-service business education teachers in North East Nigeria had considerable agreement that lecturers' preference for lecture method, and the non-provision of hands-on-IT training on the campus constitute the top most challenge hindering the use of e-learning.
2. Gender is a statistically significant factor in the mean responses of pre-service business education teachers regarding the extent to which they experience challenges in the use of e-learning.
3. Institutional affiliation is a statistically significant factor in the mean ratings of pre-service business education teachers regarding the extent to which they experience challenges in the use of e-learning.

3.1 Discussion

The objective of the research question was to identify the challenges being experienced by pre-service business education teachers in their exposure to the use of e-learning in Colleges of Education in North East Nigeria. The result shows that pre-service business education teachers are experiencing a high level of challenge in all the items identified in this study. The combined mean level of challenges ranged from 1.56 on item 8 (power is not stable) to 1.91 on item 15 (lecturers prefer lecture method of teaching). The result of this study is consistent with the reports of Asogwa (2011), Bashir and Gronlund (2007), Ezeahurukwe and Johnson (2011), Olaniyi (2006) and Takalani (2008) that several problems are hindering adoption and successful use of e-learning in schools in Nigeria. A close study of factors considered in this study reveals that the challenges affecting the use of e-learning in Colleges of Education in North East Nigeria are multi-dimensional in nature. This is in keeping with

the results of Matengu (2007) that social, political and economic factors are hampering the adoption of ICT in African schools. The current results confirm the report of Kamba (2009, P.1) that “awareness of e-learning among Universities in Nigeria is very high but investment and commitment to develop an e-learning application is very poor and below expectation”. This study has thrown more light on the imperative need for Nigeria to develop the capacity and the commitment to support the emphasis placed on the use of technology in initial teacher preparation programs.

The findings regarding hypotheses one and two are that gender and institutional affiliation are statistically significant factors in the mean responses of pre-service business education teachers regarding the extent to which they experience challenges in the use of e-learning. This result however differs from the report of Ogechi (2011) that there is no significant difference between the mean opinions of rural and urban head teachers on the challenges hindering the introduction of e-learning in Enugu State Primary Schools. The mean differences based on institutional affiliation in this present study could perhaps be a function of the quality of instructional leadership available in the Colleges of Education under study. Ideally, a College of Education that has a leader who is proactive and knows where, when, and how to seek help required to nurture instructional programs will attain greater level of success in reducing the level of challenges than a College of Education who has a sit tight leader. Similarly, the lower mean value for the female participants in this present study was a surprise. Ordinarily, one would expect the male participants to be more capable of withstanding stress or difficulties than females. On the contrary, this present study has shown that females are more tolerant of stress or difficulties.

3.2 Implications of the Study

The pre-service business education teachers in the North East Nigeria Colleges of Education are experiencing a number of challenges in the use of e-learning. This result implies the need for policy decision makers and indeed school administrators to renew their commitments to education as a whole by providing enabling environment for the pre-service business education teachers to increase their level of preparedness or readiness to use computers and e-learning. Those operating the school system, namely: school administrators, teachers and instructors, must accept the challenge of adjusting to the advance in technology, otherwise, the school will fail in their obligations to the students being produced.

3.3 Conclusion

The pre-service business education teachers in Colleges of Education in North East Nigeria reported the existence of serious level of challenges in the use of e-learning. This supports the need to increase the level of commitment to implementation of policies relating to the use of technology in teacher preparation programs. Whereas the male pre-service business education teachers showed greater feeling of challenges than the females, the feelings vary from one College of Education to another.

4. Recommendations

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

1. The proprietors of Colleges of Education in North East Nigeria should renew their commitments to education by striving to provide the Colleges with teaching, infrastructure and organizational capacity to implement e-learning effectively and efficiently.
2. Teacher training institutions should accept the challenge of adjusting to the advances in technology to meet their obligations to the pre-service business education teachers.

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