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Comparative analysis of teacher trainee students' e-learning technology (ELT) readiness towards promoting global curriculum best practice

Edna N. Ogwu

University of Nigeria Nsukka, Enugu State, Nigeria.

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This study compares teacher trainee students (TTSs), electronic learning technology (ELT) readiness, competence as well as their constraints to ELT readiness using 373 University education students' from Botswana and Nigeria that are randomly selected. Data was descriptively analysed based on the research objectives and hypotheses using mean analysis, frequency counts, independent t-test and Pearson correlation analysis. Results indicate a significant difference between Botswana and Nigerian TTSs' in ELT preparation t (371) = -6.26, p<0.05 and competency t (371) = -1.96, p<0.05. However, Nigeria seems better prepared and more competent than their counterpart. Results further indicate a significant relationship r (371) =0.274, p=0.05 between TTSs ELT preparedness and their competence irrespective of their location. This indicates that TTSs mode of preparation influenced their competency in ELT. Students are faced with many challenges ranging from lack of ELT knowledge, technical staff, computers, internet connectivity, power outage, interest among others. This has implications for teacher preparation and global practices.

Key words: Botswana, competence, E-learning technology, Nigeria, readiness.

INTRODUCTION

E-learning technology (ELT) is an innovative medium used today in modern classrooms for teaching and learning especially in distance education using internet. It is a technology that is used by everyone in a global setup especially by teachers to reach a wider population. According to Shahadat et al. (2012) and Boulton (2013), ELT has radically and positively impacted education and training globally by transforming teaching and learning process. Acquisition of ELT skills is strongly determined by an individual's mode of preparedness or readiness to acquire the skill.

Readiness in ELT is a necessity for teachers at various knowledge points such as primary, secondary, tertiary institutions, workshops, cyber café, through friends and even at individuals' home. Research in Botswana has shown that there is an acute shortage of high skilled and hands-on personnel necessary for steering the emerging digital economy in developing countries (Mutula and Van

E-mail: ogwue@yahoo.com.

Brakel, 2007). The research also shows that distance education using internet is not yet in operation in university of Botswana which gives a great concern to global practices. Nigeria University is also not exceptional in this practice among developing nations from the researchers observations.

ELearning technology/ICT preparation is therefore needed by teachers on training to power the emerging digital economy for effective pedagogy. This provides teachers and learners access to vast stores of knowledge beyond the school learning environment at anytime and anywhere using online skills via internet and computer (Ebirim, 2010). Empowering teachers mean empowering a whole nation, hence teacher trainee students is the focus of this study.

Teacher trainee students (TTSs) are supposed teachers on training. They are education students that are exposed to principles and practices of education; hence, they were targets for this study. A great deal of research has shown that TTSs need to be competent in ELT such as navigating the World Wide Web for data and tutorial information, use e-mail to communicate and be able to send attachments and create e-mail folders, understand basics computer networks and how school network works, downloading software from the web knowledge, including e-Books, dissertations, e-portfolios, Facebook, portal, social network, be aware of online teaching tools and use them to teach as well as video conferencing (Bouchard, 2011; Turner, 2005; Weller, 2010). The UNESCO competence for teachers advocates that teachers should know basic hardware and software operations in order to be flexible in use of a variety of subjects-specific tools and applications (UNESCO, 2011). If teachers are not exposed to various ICT/ELT facilities and devices, they will find it difficult to use them. Having ELT/ICT does not guarantee their effective usage. The teacher must have the right attitude and competence towards ICT/ ELT usage.

Researchers also believe that innovative system of learning is accessed and delivered electronically only if the instructor is competent in various multimedia products such as the internet, intranet, satellite broadcasts, and audio/video, interactive TV and CD-Roms (Chang and Tang, 2008; Yucel, 2006) among others. This involves effective competence in the use of a wide range of skills for curriculum delivery in and outside the classroom system. According to Osuala (2009), ELT help students to cope with changes, take responsibilities, and think critically towards solving problems cooperatively in an innovative environment. Research has shown that ELT has propelled the whole populace into a global village through interconnectivity of activities irrespective of distance, race, culture, technology and trade (Bolt and Flynne, 2010; Okposio, 2011). Almekhlafi and Almeqdadi (2010) has also advocated for technology integration in the United Arab Emirates school classrooms. Research has also shown that technology integration increased student teachers growth and achievement (Cifuentes et al., 2011). According to Ngwoke and Nummonde (2011), electronic learning allows students to get fully involved by trying things out. These pedagogical skills have become necessary as a result of population growth, insecurity of teachers and learners as well as for global collaboration for distance learning. However, teachers in both countries seem not involved in global teaching and learning practices. As a result of this, it becomes necessary that every teacher must be conversant and well prepared at various knowledge points in order to acquire vase pedagogical knowledge to promote global curriculum practices.

Curriculum is a planned course of study meant for learners to acquire in or out of school for the betterment of the individual and the society. This includes achieving the set objectives as stipulated in the content using best practices and strategies for the realization of the goals. Technologically, curriculum involves internet and software based programmes which provides multi-sensory interactive learning. Promoting global interactive curriculum best practices definitely depends on the high skills of teachers. Hence teachers on training will be used to elicit information on the state of teachers in the two developing countries of interest. In most part of Africa, it is believed that many teacher trainee students are still wallowing in ignorance towards the use of modern innovative technology for pedagogical knowledge. It is on this note that Nwagbo and Ugwuanyi (2011) lamented that the pace of development and readiness in ICT in Nigeria is still relatively low in the universities. Hence TTSs from Botswana in Southern Africa and Nigeria in West Africa were used for this study to determine differences that could exist between the two developing countries in terms of ELT readiness. Hence teachers on training were used to elicit information on this study.

Most researchers have attributed ELT readiness and competence to challenges such as: Poor infrastructure, limited funding, inadequate facilities, frequent electricity interruption (Aduwa-Ogiebaen and Iyamu, 2005), lack of time, poor curriculum planning, lack of technical staff support, poor equipment maintenance (Ogwu and Ogwu, 2010); poor policy/project implementation strategy, conservative attitude of lecturers to ELT (Ochuku et al., 2013) and poor teacher preparedness (Ajayi and Ekundayo, 2009; Mutula and Van Brakel, 2007). In Nigeria, report to challenges teachers face using ICT is attributed to 80% lack of time, 77% insufficient knowledge, and 54% deficiency in professional development opportunity for knowledge and skills (Aiyebelehin, 2012). Deficiency in policy, schools and training providers has also been a challenge in Botswana (Boitshwarelo, 2009). However, with time, more challenges could emanate from countries regarded as third world due to poverty or ignorance.

Research studies have established that Nigeria was ranked 112th on global ICT chart, behind African countries such as Southern Africa, Rwanda, Senegal, Mauritius, Kenya and Botswana (International Telecommunication (ITU), 2011). Although Nigerian students seem overzealous learning ICT associated skills yet they ranked very low. Botswana is also a Southern African country that seems more stable and organized academically than Nigeria, yet their online teaching and learning seemed invisible as observed while living there, hence the choice of the two countries in Africa. This could have implication on global practices academically between the two countries. A great deal of research has also shown that 83% of fresh university students in Botswana did not do ICT at the secondary school level which might influence their readiness and competence ELT (Ogwu and Ogwu, 2012). A survey of teachers' use of computer/internet in secondary schools in Southwest Nigeria was proved to be very low (Alege and Afolabi, 2011). A further baseline study has also shown that students do not adequately possess required skills (Microsoft (MS) powerPoint, MS Excel, MS Access and internet) in computer when entering the University (Lumande and Fidzani, 2008).

A comparative study of this nature has not been established hence two developing countries in Africa were used. Nevertheless, TTSs from two federal universities in Nigeria and Botswana were used to compare their relative readiness and competence in ELT curriculum as well as challenges TTSs face. Findings from this study will be beneficial to TTSs, researchers and government of various countries.

Statement of the problem

The pace in ICT usage for teaching and learning in global distance education seems sluggish in developing countries like Nigeria (Nwagbo and Ugwuanyi, 2011) as well as Botswana (Mutula and Van Brakel, 2007). This study is timely at a period where everyone is globalizing in terms of teaching, and learning in a chaotic environment with growing classroom population. Children need knowledge for growth and development irrespective of insurgents' attacks and disruptions of academic work. Nations also need to collaborate to achieve peace and development. If ELT is effectively used in Nigeria and Africa as a whole, it will increase economic productivity, socialization and growth in professionalism.

Theoretical perspective to the study

Constructivist theory maintained that humans can only understand the knowledge they themselves constructed according to Greece (2010). Piaget (1964) contends that exposing children to audio-visual instruction at an early stage serves as building blocks for more sophisticated tasks (Tobias and Duffy, 2009). The constructivist theory or philosophy is based on the assumption that knowledge is constructed by learners as they attempt to make sense of their experiences. Understanding the role of the teacher in the constructivist approach provides a useful base into this study. In the piagetian classroom, it is believed that software enhance learning while telecommunication tools like e-mail and the internet provide contents for dialogue and interaction within the classroom, the school and the community (Tobias and Duffy, 2009). This leads to social construction of knowledge to other ideas, cultures and forums on global issues. Constructivism itself has many variations, such as active learning, discovery learning, and knowledge building. In the constructivist approach, the teacher is a co-ordinator, facilitator, resource advisor, tutor or coach who encourages students to discover and construct knowledge to solve realistic problems. Constructivism can partly be found in self-directed learning, transformational learning, experiential learning, situated cognition, reflective practice and religious practice.

These experiences in relative to ELT readiness could be acquired at any knowledge point such as school, home, cyber café, friends, among others. These experiences, involves a lot of activities and tasks which a teacher trainee student encounter in order to be competent in utilizing skills from computer and internet. In the classroom, the constructivist view of learning can point to a number of different teaching practices. This actually means encouraging students to use active skills (computer, internet) to create knowledge for research and teaching practice. This will stimulate and increase teaching and learning of any school subject in the curriculum. Teaching with constructivist learning theory encourages communication, socialization and collaboration in a diverse society. Hence the teacher as a constructor of knowledge should need to be well equipped with pedagogical skills and knowledge to be able to interact globally.

Purpose and hypotheses of the study

The purpose of this study is to compare Botswana and Nigeria TTSs' readiness in ELT and determine the challenges facing them. The study specifically:

1. Compares TTSs' mean preparation in ELT by location.
2. Compares TTSs' mean competence in ELT by location.
3. Determines whether TTSs' mode of ELT preparation significantly influences their competence in ELT.
4. Determine the constraints facing TTSs readiness in ELT from both countries.

Following from these objectives, the following null

hypotheses were posited to be tested at an alpha level of 0.05; in order to generalize the study.

$H_{01:}$ There is no significant difference between Botswana and Nigeria TTSs' preparation in ELT.
$H_{02:}$ There is no significant difference between Botswana and Nigeria TTSs' competence in ELT.
H_{03}: Teacher Trainee Students' preparation in ELT does not significantly influence their competence in ELT for learning.

Significance of the study

The findings of this study will be of immense benefit to classroom teachers because it will expose their baseline readiness as well as their level of competence in electronic learning technology. This will give room for teacher training and preparation towards learning and research. Such learning will increase socialization and collaboration among learners from different countries. Students will equally benefit from this research, because it will assist them in learning irrespective of distance. This will be of special benefit to learners from a war thorn zone. Students and teachers will find it easy to teach and learn using online learning skills acquired. The findings from this study will add body to literature for other researchers to utilize.

METHODOLOGY

Design

A descriptive survey design was used since it is a large and a comparative population that needs a generalization. It was also used because of the structured nature of the questionnaire.

This design was used to describe the situation of ELT readiness and competence comprehensively while inferential statistics was used quantitatively to test the null hypotheses in order to infer to the general population.

Area of study

The area of study was a Federal higher institution in South East, Nigeria and also a Federal higher institution in South Central Botswana, where teachers are trained under education. These are University of Nigeria, (UNN) and University of Botswana, (UB) Gaborone Botswana. The area was chosen because of associated problem of ICT utilization by students.

Population of study

The population of study consists of 330 trainee teachers from Botswana and 450 trainee teachers from Nigeria. This comprises of all education undergraduates from level one to four. This population was chosen because substantial information would be gotten from them regarding their mode of preparation and competence in E-learning technology. They are also future implementers of ELT curriculum. It was also chosen because the two universities are first federal university in their country. It is expected that these universities would serve as a role model to every other universities in the country.

Sample and sampling technique

A sample of two hundred teacher trainee students (TTSs) from each university were sampled from the stated population using a simple random technique by lottery method across the four levels (1-4) with their class attendance register. This gave every member an equal chance of being selected into the study from different levels irrespective of their departments. Fifty TTSs were chosen among the four levels. However, the return rate of the questionnaire came up to 193 from Botswana and 180 from Nigeria among the education students only. It is based on this, that data was analysed.

Instrument for data collection

Self-constructed questionnaire on teacher trainee readiness and competence in ELT (QTTRCELT) was used. The questionnaire was made up of two sections (A & B). Section A contains the demographic information of the respondents based on location, gender, level, age and area of specialization; just for identification purposes. Section B comprises of both closed and open-ended questionnaire items. The close ended questionnaire is made up of 16 structured question items in 2 clusters measuring students ELT mode of preparation at various knowledge points, and competence in ELT. The structured items on ELT mode of preparation comprises of: Primary and secondary schools, home, public cyber café, capacity building workshops, self-practice effort and friends made up of 7 items. Competence in ELT with 9 items include: Accessing research information from world wide web, conducting internet searches for information, taking part in online discussions, engaging in online chatting, video conferencing, logging in/out to e-mail, accessing e-mail messages, sending an attachment with an email message. Each of these were measured using 4 point rating scale of (4 = very prepared/very competent; 3 = prepared/competent, 2 = less prepared/ less competent, 1 = not prepared/ not competent.

The open-ended is made up of respondents' responses on their challenges or constraints to ELT readiness. This was arranged in themes and described accordingly based on their frequencies on a particular converging theme.

Questionnaire was face validated for internal consistency by 3 experts from curriculum and instruction, computer and measurement and evaluation department from both countries. Validation of the instrument was based on the research objectives. Their contributions were incorporated into the final draft of the items. A trail testing was then conducted using 25 respondents each from the two countries (Nigeria and Botswana).

Reliability of the instrument was tested using Cronbach's Alpha (α) coefficient method based on the clusters using inter item rate to test for the internal consistency of the items. Reliability on ELT preparation at various points was carried out using 7 items which resulted to .898; ELT competence using 9 items which gave a cronbach alpha index of .934. The total item of 16 resulted to .902 cronbach Alpha. It is based on this high tested reliability that the instrument was used for data collection.

Data collection

Data was collected by hand collaboratively from each country to

Table 1. A descriptive mean analysis of ELT mode of preparation by location.

ELT preparation	Location	n	Mean	SD	Remark
My ELT preparation started in the secondary school.	Botswana	193	2.50	1.03	P
	Nigeria	180	2.62	1.09	P
I had knowledge of ELT right from home.	Botswana	193	2.00	.97	LP
	Nigeria	180	2.36	1.04	LP
I learnt about ELT from public cyber café.	Botswana	193	1.94	0.91	LP
	Nigeria	180	2.66	0.99	P
I acquired ELT skills through capacity building workshops.	Botswana	193	1.78	0.78	LP
	Nigeria	180	1.98	0.91	LP
I learnt about ELT in the primary school.	Botswana	193	1.87	0.95	LP
	Nigeria	180	2.03	0.10	LP
Knowledge of ELT was gotten through self-practice effort.	Botswana	193	1.58	0.73	LP
	Nigeria	180	1.87	0.94	LP
My knowledge in ELT was through friends.	Botswana	193	2.56	1.04	P
	Nigeria	180	2.61	1.04	P
Total Grand Mean			2.17	0.89	LP

VP, Very prepared; P, prepared; LP, less prepared; NP, not prepared.

ensure effective returns. The help of colleagues were solicited for to monitor returns. Ethical issues were observed to ensure data collection. This was carried out after their lecture period to avoid disruption of normal lesson which made it very hectic to retrieve most of the questionnaire distributed. The instrument was administered with the help of two assistants from both Botswana and Nigeria respectively. Data was collected based on appointment from the head of department of education. Out of 200 questionnaire distributed to university of Botswana, 193 were collected given a percentage of 97%; and out of 200 questionnaire also distributed to university of Nigeria, 180 were collected given a percentage return of 90%.

Data analysis

Data was analyzed descriptively using mean analysis to determine the extent of ELT preparation and competence. Real limit of numbers was used to take a decision on the Mean analysis as follows: 1.00-1.49 = not prepared/not competent; 1.50-2.49 = less prepared/less competent; 2.50 -3.49 = prepared/competent; 3.50 - 4.00 = very prepared, very competent.

Frequency count was used to describe respondents' responses to the open-ended question as arranged in themes. This was used to establish TTSs responses in themes on constraints they face learning ELT.

An Independent t-Test was used to test hypotheses 1 and 2 on significant differences that exist in ELT between Botswana and Nigeria. Pearson correlation analysis was also used to establish a significant relationship between TTSs mode of preparation and their competence in ELT irrespective of location. The hypotheses were tested at 0.05 significant levels.

RESULTS

The results are arranged based on the research objectives and the hypothesis for ease of generalization on each variable.

Objective 1: Compares TTSs' mean preparation in ELT by location

A descriptive mean analysis result of ELT mode of preparation of TTSs from Botswana and Nigeria shows that TTSs from both countries were mainly prepared from secondary schools and partially through friends. However, Nigeria TTSs seem better prepared than TTSs from Botswana as reflected in Table 1. In addition to this, Nigeria is also prepared from public cyber café with mean of (M = 2.66, SD = 0.99) than Botswana as reflected in Table 1. Never the less, both countries are less prepared at various knowledge points such as home, primary school, capacity building workshops and from their self-effort (Table 1). The grand Mean total of both countries ELT readiness at various knowledge point (M = 2.17, SD

Table 2. An independent t-test analysis of ELT preparation by location.

Location	n	Mean	SD	t-value	df	p-value
Botswana	193	20.11	3.64	-6.26*	371	.000
Nigeria	180	22.68	3.68			
Total	373	42.79	6.32			

*Significant at p<0.05.

= 0.87) indicate that they are less prepared.

Results as Table 1 indicate that both countries are generally less prepared in ELT at various knowledge points such as home, primary and self-effort and capacity building workshops. However, Nigerian TTSs are better prepared in terms of ELT acquired from various knowledge points such as cyber café, while both countries are only prepared at secondary schools and through friends. This is an indication that teacher preparation needs to be enforced for effective global practices. This might be attributed to challenges TTSs face as indicated in Table 6. Further analysis in Table 2 would indicate a significant preparation in ELT at various knowledge points.

H_{01}: This hypothesis was tested using an independent t-test analysis to determine the significant difference between Botswana and Nigeria TTSs' preparation in ELT. Results shows t (371) = -6.26*, p< 0.05. Hence, the null hypothesis of no significant difference between Botswana and Nigerian TTSs' ELT preparation at various knowledge points was rejected. A closer look at the Mean difference shows that Nigeria (M = 22.68, SD = 3.68) is significantly better prepared in ELT at various knowledge point than their Botswana (M = 20.11, SD = 3.64) counter parts (Table 2).

This result indicates that Nigeria TTSs are significantly better prepared in various ELT knowledge points than Botswana. This is an indication that if given the opportunity and enabling environment, Nigeria TTSs could excel in global interactive practices.

Objective 2: Compares TTSs' mean competence in ELT by location

A descriptive mean analysis of ELT skills competence between Botswana and Nigeria shows that Botswana and Nigeria are equally competent in accessing research information from world-wide web, conducting internet search for information, logging in and off e-mail and accessing e-mail messages. However, both countries also exhibited less competence in online discussion as well as video conferencing (Table 3 for mean difference). Nevertheless, while Nigeria is competent in online chatting, Botswana is competent in sending attachment with e-mail messages. In totality, both countries have a (M = 2.74, SD = 1.10) competence in ELT. Although competent in chatting and emailing skills, TTSs in both countries are less competent in online discussion and video conferencing. These two skills are very vital in future distance learning and global network in teaching and research.

Results in Table 3 indicate that both countries are competent in ELT skills for learning and research. But how significant different the competence is was not established. This was done using hypothesis as shown in Table 4.

H_{02} This hypothesis was tested using an independent t-test analysis of TTSs competence in ELT by location. Result shows t (371) = -1.96, p< 0.05. Based on this, the null hypothesis was rejected; hence, there is a significant difference in TTSs competence in ELT skill usage. A closer look at the mean table entries, shows that Nigeria (M = 23.94, SD = 6.32) is significantly more competent in ELT skill utilization than their Botswana (M = 22.56, SD = 7.17) counterpart. Hence Nigerian TTSs are significantly more competent in ELT than Botswana (Table 4).

This result indicates that Nigeria TTSs are more competent in ELT skills usage for learning than Botswana TTSs. This indicates that Nigeria TTSs have more access to research information worldwide, conduct internet search for information, and engage in on-line chatting, use e-mail for assessing messages, logging in and off, as well as sending an attachment with messages more than their Botswana counterpart. These skills are necessary for learning in a globalized world. Despite all the challenges as reflected in Table 6, Nigerian TTSs are still competent in ELT than Botswana. However, both countries have a short fall as far as online discussion and video conferencing is concerned. This has serious implications for future implementation of ELT curriculum in order to reach a large group of individuals within a short space of time.

Objective 3: Determines whether TTSs' preparation in ELT significantly influences their competence in ELT

This was done using hypothesis 3 to determine the influence of preparation on competence.

H_{03} This hypothesis was tested using Pearson

Table 3. A descriptive mean analysis of TTSs competence in ELT by location

ELT competence	Location	n	Mean	SD	Remark
Accessing research information from World Wide Web (www)	Botswana	193	2.75	1.05	C
	Nigeria	180	3.19	0.98	C
Conducting other internet searches for information	Botswana	193	2.63	0.99	C
	Nigeria	180	3.03	0.88	C
Taking part in online discussions	Botswana	193	2.07	1.07	LC
	Nigeria	180	2.34	1.05	LC
Engaging in online chatting	Botswana	193	2.31	1.17	LC
	Nigeria	180	2.50	1.19	C
Video conferencing	Botswana	193	1.72	0.93	LC
	Nigeria	180	1.71	0.88	LC
Logging on to e-mail	Botswana	193	2.84	1.17	C
	Nigeria	180	2.98	1.12	C
Accessing e-mail messages	Botswana	193	2.89	1.15	C
	Nigeria	180	2.99	1.06	C
Logging off e-mail	Botswana	193	2.83	1.20	C
	Nigeria	180	2.69	1.13	C
Sending an attachment with an email message	Botswana	193	2.50	1.20	C
	Nigeria	180	2.48	1.12	LC
Total Grand Mean			2.74	1.10	C

* VC, Very competent ; C, competent; LC, less competent; NC, not competent.

Table 4. An independent t-test analysis of TTSs' competence in ELT by location.

ELT skills competence	Location	n	Mean	S. D	t-value	Df	p-value
ELT	Botswana	**193**	22.56	7.17	-1.96*	**371**	.051
	Nigeria	180	23.94	6.32			
Total		373	46.50	13.49			

*Significant at p<.05.

Table 5. Pearson correlation product moment analysis of TTSs preparation and competence in ELT (n=373).

Variable	Mean	SD	R	df	P- value
ELT preparation (X)	20.30	3.73	.274**	371	.000
ELT competence (Y)	23.22	6.80			

*Significant at 0.05.

Correlation Product Moment analysis of TTSs preparation and competence in ELT. This resulted to r (371) =.274, p <0.05. Hence the null hypothesis that TTSs preparation in ELT does not significantly influence their competence in ELT was rejected. Result therefore indicates a positive relationship between TTSs preparation in ELT at various knowledge points and their competence in various ELT skills irrespective of location. The Mean analysis revealed a higher mean competence (M = 23.22, SD = 6.80) than preparation (M = 20.30, SD = 3.73) (Table 5).

This result indicates that although, TTSs are less prepared in some knowledge point, they are competent in ELT such as accessing research information from worldwide using internet search. They also chat online,

Table 6. A frequency count of constraints associated with TTSs' readiness in ELT by location (n = 373).

S/N	Constraints associated with ELT readiness	Location of country	
		Botswana	Nigeria
		F	F
1	Lack of ELT knowledge and skills to source for information.	20	49
2	Shortages of technical staff to assist learning	18	43
3	Poor access to ELT in school so cannot practice effectively.	14	16
4	Lack of personal computers to practice.	5	7
5	Lack of confident (technology phobia) in ELT usage.	5	6
6	Lack of interest in ELT due to poor motivation.	6	2
7	Unavailability of internet network connectivity.	5	6
8	Constant power outage.	0	6
9	Teaching is more theoretical than practical in ELT.	2	2
10	Ineffective introduction to ELT at an early age.	1	3
11	ELT training too expensive to engage in.	0	4
12	Lack of time to use ELT.	1	1

logging in and off e-mail to access messages and send attachment. This indicates that the better prepared TTSs are at various knowledge points, the more competent they are in the use of ELT.

Objective 4: Determine the constraints facing TTSs readiness in ELT from both countries

This was done descriptively using frequency counts from TTSs theme responses from the open ended question. Table 6 show the open-ended question on challenges and constraints students face using ELT. Responses from TTSs were arranged and coded based on themes. It is based on this coding that frequency in coding as it occurred was made. Majority of the students from Nigeria (49) and Botswana (20) indicated lack of ELT knowledge to learn and search for information. Many from Nigeria (43) and also Botswana (18) indicated shortage of technical staff and computers to assist learning. Most of these respondents from Botswana (16) and Nigeria (14) claimed to have poor access to ELT facilities in their schools for practice. Other problems as highlighted in Table 6 include lack of confidence, interest, motivation, time, ignorance, unavailability of internet network; teaching being more theoretical than practical, late introduction to ELT skills, high cost of training and among others as shown in the table. Results from frequency counts of the open- ended question as seen in the table indicates that TTSs from higher institutions in both Nigeria and Botswana lack sufficient knowledge in ELT and also have shortages of technical staff and computers to assist learning. Most of these problems range from poor access to ELT in their various institutions to lack of personal computers for effective practice. Other challenges are as applicable in the table. These are relative to their level of competence in ELT as reflected in their respective countries.

DISCUSSION

Findings from the study revealed that both Botswana and Nigerian TTSs' are less prepared at various knowledge points such as home primary school, home, capacity building workshop and their self-effort. Although less prepared, findings revealed that Nigeria TTSs are significantly better prepared at various ELT knowledge point than their Botswana counterpart. This finding is in line with that of Mutula and Brakel (2007) that developing countries are less prepared in ICT which has led to acute shortage of skilled human resource in this area. Finding is also contrary to International Telecommunication Union (ITU), (2011) analysis that Nigeria was ranked 112th behind Botswana in global ICT chart. Findings have significantly revealed that Nigerian TTSs are more prepared than their counterpart in Botswana. This finding is however striking since it indicates that students from both countries are mainly prepared in ELT at the secondary school level and through friends. This also is contrary to Ogwu and Ogwu's (2012) findings that majority (83%) of students' ICT readiness did not start at the secondary school level. And also contrary to Lumande and Fidzani (2008), findings that student does not adequately possess the required skill when entering the university. This is an indication that students do not have proper orientation in ELT right from the basis that is from their homes, primary schools and capacity building workshops, where standard is expected to start for students. This has implications on institutional

standardization as well as future curriculum practices in ICT among future teachers in developing world.

Findings also indicate that TTSs from both countries are generally competent in ELT, although Nigerian TTSs are significantly more competent. They are competent in electronic usage for accessing research information worldwide, conducting internet search for information, assess their messages, logging in and off from internet, and are able to perform other necessary functions using e-mail skills. However, both countries showed less competence in on-line discussions, chatting, and video conferencing as well as sending an attachment with messages through e-mail. It is however expected that students from more organized countries like Botswana should do better as far as learning electronically is concerned based on the ranking of International Telecommunication Union (ITU) (2011). Nigeria being more competent could be attributed to interest which converges with Ebirim's (2010) findings that on-line learning could be attributed to interest and not necessarily location. These skills are necessary for learning and research in a globalized world according to Ngwoke and Nummonde (2011). Studies have not been fully established in terms of comparative study as far as electronic skill competence is concerned between Nigeria and Botswana. These findings have implications for collaborative teaching, research and exchange programme. It would enable future teachers to organize distance teaching and learning with ease for developing countries.

Findings from structured and unstructured questionnaire on challenges TTSs face from both countries indicates that students from both countries lacked sufficient knowledge in ELT to search for information during learning, and also shortages of technical staff to assist in learning and research, poor access to ELT in their various institutions, lack of personal computers for effective practice, lack of confident in ELT, lack of interest and unavailability of network. Other challenges as applicable to only Nigerian students include ignorant about video conferencing, hyperlink, PowerPoint and lack of motivation. However, in Botswana, challenges independently faced were high cost of ELT training. Most of these findings converged with most researchers like Ajayi and Ekundayo (2009) that lack of computers and literate teachers hinders effective readiness and utilization of ELT in teaching and learning. Nigeria students are likely facing huge manpower challenge as indicated by them which could have influenced their competency in these practical skills. This converges with Osuala's (2009) findings that teachers and students are increasingly engaged in electronic education irrespective of circumstances which has influenced their knowledge and skills. This finding also converges with Bouchard (2011) and Weller (2010) that electronic learning is one of the integrative skills used for teaching and learning irrespective of location.

CONCLUSION AND IMPLICATIONS

This study reveals that TTSs from both countries are less prepared at various ELT knowledge point since both lack grass root knowledge in ELT. They only began to acquire the knowledge at the secondary school level and through friends. However, Nigerian TTSs are significantly prepared in ELT than their Botswana counterpart. The two countries are however generally competent in ELT with Nigeria having a moderately upper edge over Botswana. However ready, TTSs from both countries, are still faced with challenges ranging from lack of ELT knowledge to learn and search information, shortage of technical staff to assist learning, poor access to ELT, lack of personal computers to practice, lack of confidence and interest, unavailable internet connectivity, constant power outage, among others. These challenges might have implications for their global best practices now and in future. Nevertheless, this has implications for teachers' global best practices in collaborations with other students outside their environment. It will also have impact on teachers outreach to large student population who are indisposed to learn in a traditional classroom situation due to war or handicap of any kind. This however will assist in increase economic productivity, socialization among learners through communications as well as growth in professionalism.

RECOMMENDATIONS

1. Trainee teachers should endeavor to upgrade themselves at home, public cyber café workshops and self-effort towards ELT usage in order to promote best practices in teaching future students.
2. Teacher trainee students should be exposed to ELT capacity building workshops and training programmes once or twice every year in their various institutions. This will increase their knowledge and growth in ELT.
3. Sufficient infrastructure and computers should be provided by the government to enable TTSs have access to ELT usage for effective acquisition of knowledge and competence.
4. Internet connection should also be made available and functional by the school authority, for easy browsing and connectivity with the outside world. Without this, video conferencing and other forms of e-learning becomes impossible as indicated in their constraints.
5. Government should provide stable, efficient and constant electricity to be able to harness the full advantages of ELT learning in schools which is a major constraint in Nigeria.
6. Policy development should be put in place by the

Government of each country towards the training of teachers in ELT usage as advocated by Boulton (2013), in order to alleviate constraints associated with shortages of technical ICT staff.

Conflict of Interests

The authors have not declared any conflict of interests.

RERERENCES

Aduwa-Ogiegbaen SE, Iyamu EOS (2005). Using information and communication technology in secondary schools in Nigeria: Problems and prospects. Educ. Technol. Soc. 8(1):104-112.

Aiyebelehin JA (2012). The influence of teachers' information needs and seeking behavior of ICT use in secondary schools (unpublished master's thesis), University of Ibadan, Ibadan Nigeria.

Ajayi IA, Ekundayo HT (2009). The application of information and communication technology in Nigerian secondary schools. Int. NGO J. 4(5):281-286.

Alege B, Afolabi S (2011). Survey of teachers' use of computer/internet in secondary schools in Southwest Nigeria. Proceedings of the European conference on e-learning. Retrieved (on 10/12/12) from [http://connection.ebscohost.com/c/articles/69728079/survey-teachers-use-computer-internet-secondary-schools-south-west-Nigeria].

Almekhlafi AG, Almeqdadi FA (2010). Teachers' perceptions of technology integration in the United Arab Emirates school classrooms. Educ. Technol. Society, 13(1):165-175. Retrieved (on 20/2/11) from [http://eric.ed.gov/?id=EJ880086].

Bolt S, flynne P (2010).The customization of perdisco e-learning resources to enhance student learning in an accounting course in various locations using differing modes of learning. Int. J. Learn. 16(6):721-736.

Boitshwarelo B (2009). Exploring blended learning for science teacher professional development in an African context. Retrieved (on 22/08/16) from [http://www.irrol.org/index.php/irrodl.article/viewArticle/687]

Bouchard P (2011). Network promises and their implications. In the impact of social networks on teaching and learning (Online monograph). Revistade Universidady Sociedad del Conociento, 8(1):288-302.

Boulton H (2013). Managing e-learning: What are the real implications for schools? Electronic J. E-learning 6(1):11-18.

Chang S, Tang F (2008). An empirical investigation of students' behavioural intentions to use the online learning course websites. Bri. J. Educ. Technol. 39(1):71- 83.

Cifuentes L, Maxwell G, Bulu S (2011).Technology integration through professional learning community. J. Educ. Comput. Res. 44(1):59-82.

Ebirim U (2010). Integration of e-learning in distance education for the enhancement of distance education programme. Nigerian Vocational Association J. 15(1):297-303.

Greece DT (2010). Constructivist learning. Retrieved (on 28/1/2013) from (http://www.seasite.niv.edu/tagalog/teachers_page/language_learning).

International Telecommunication Union (ITU) (2011). Measuring the information society in Geneva. Retrieved (on 20/07/2013) from http://www.itu.int/net/pressoffice/backgrounders/general/pdf/5.pdf.

Lumande E, Fidzani BT (2008). Information skill baseline study : 2007/2008 year one intake report. University of Botswana Library Services Internal Document 2008.

Mutula SM, Brakel PV, (2007). ICT skills readiness for the emerging global digital economy among small businesses in developing countries: Case study of Botswana: Library Hi Technol. 25(2):231-245.

Nwagbo CR, Ugwuanyi CS (2011). Assessment of the level of lecturers' ICT competence for the adoption of e-learning in Nigeria University. Institute of Education J. 23(1):29-39.

Ngwoke DU, Nummonde D (2011). Optimizing e-learning opportunities for educational service delivery: A case for use of e-textbook in schools. Paper presented at the Annual conference of institute of Education, University of Nigeria, Nsukka, 9th -12 may, 2011.

Ochuku IG, Amakaino UJD, Chamberlain KP (2013).Utilization of e-learning technologies in business education instructional delivery in colleges of education in Delta State of Nigeria. Int. J. Educ. Res. 1(10):1-13.

Ogwu EN, Ogwu FJ (2010). Technologies and utilizations in schools: Implications to learning. J. Technol. Integration in the Classroom 2(1):47-55.

Ogwu FJ, Ogwu EN (2012). Computer proficiency skills and implication for curriculum transformation among fresh undergraduate of Botswana University. Int. J. Computer Sci. Issues 9(5,1):384-390.

Okposio OC (2011). The use of ICT in the teaching and learning of physical education. Continental J. Educ. Res. 4(2):29-32.

Osuala, EC (2009). Business and computer education. Enugu: Chester Fool Agency Ltd.

Shahadat H, Muhbub H, Clement C (2012). Barriers to the introduction of ICT into education in developing countries: The example of Bangladesh. Int. J. Instruction 1(2):2-13.

Tobias S, Duffy TM (2009). Constructivist instruction: Success or failure? New York: Taylor & Francis.

Turner L (2005). Technology skills every educator should have. Retrieved from [http://thejournal.com/articles/2005/06/01/20-technology-skills-every-educator-should-have.aspx].

UNESCO (2011). UNESCO ICT competence framework for teachers. Paris: UNESCO

Weller M (2010). The centralization delima in educational IT. Int. J. Virtual and Personal Learn. Environments 1(1):1-9.

Yucel SA (2006). E-learning approach in teacher training. Turk. Online J. Distance Educ. 7(4):123-130.