UNIVERSITY STAKEHOLDERS' ATTITUDE TOWARD UTILIZING E-TUTORING FOR DISTANCE LEARNING IN SOUTH-WEST, NIGERIA

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Abstract

This study examined University stakeholders' (academic and technical staff) attitude toward the use of E-tutoring for distance learning in Nigeria. It specifically investigated attitude towards the use of E-tutoring based on gender, working experience and area of specialization. Questionnaire was used to collect data from 157 respondents involved. Four research questions were answered while three hypotheses were tested. Mean and percentage were used to answer the research questions and independent t-test for the hypotheses. Results indicated :stakeholders had positive attitude (mean score :3.10); no significant difference between male and female (t-test value of df (155), t = 1.49, p > .05); no significant difference between experienced and less experienced (t-test value of df (155), t = -.84, p > .05); no significant difference between stakeholders(df (155), t = 1.69, p > .05). It was recommended that e-tutoring should be more incorporated into distance learning in Nigeia.

Keywords: Stakeholders' attitude, E-tutoring, Working experience, Area of specialization

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INTRODUCTION

ICT plays dynamic roles in the field of teaching which cannot be overstated. It has been a key engine for the performance and growth of economy of the entire globe since the early 1970s, putting education as one of the most concerned sector, making e-learning becoming perhaps the main technological enablers of economic globalization and sustainable knowledge dissemination (UK. Essays, 2013). In addition, ICT can be used to improve teaching and learning; which is important for lecturers to be at ease using it to ensure that students get the complete benefits of informative technology (Sweeney & Geer, 2012). It also brings to all in education the 3 'Rs' – which are raising levels of achievement for all, reducing exclusion and reducing the workload on teaching staff (Len, n.d).This could be achieved through the use of ICT teaching and learning tools.

ICT tools also play a vital role in formal and informal review for information seeking, content sharing, and self-expression in technology pervasive information environments of the 21st century (Mills, Knezek and Wakefield, 2013). ICT teaching and learning tools include the internet, radio and television, computer (hardware and software), wireless networks, cell phones, and forms of communication mediums and other services, such applications that are also associated with above-mentioned devices are videoconferencing, distance learning or open and distance learning to include virtual learning, e-learning, m-learning, blended–learning, and E-tutoring.

As regards the impressive role and increased acceptance of the open and distance learning in many part of the world, the quality of higher education via distance education has been called to question (Helland, 2002). The influences of online technologies use involve the structures of attitude. Attitudes have been shown to be a vital predictor of the usage and implementation of ICT (Rodgers & Chen, 2002). Attitude is a general and enduring positive or negative sentiment about some persons, object or issue (Xueming, 2002). Attitude is also an accumulation of information about an entity, person, situation or experience, a nature to act in a positive or negative way to some objects (Littlejohn, 2002). In the use of ICT in education there are factor influencing teachers' use, among these factors found out are attitudes to and beliefs about using ICT, Lecturers' qualification and experience (Catharina, 2012; Christensen, 2002; Vannatta & Fordham, 2004)

Purpose of the Study

The general purpose of this study was to examine universities stakeholders' attitude towards the use of E-tutoring for distance learning in South-west Nigeria. The specific purpose was to investigate:

i. University stakeholders' attitude toward the use of E-tutoring,
ii. Whether gender influence universities stakeholders' attitude towards the use of E- tutoring,
iii. The influence of universities stakeholders' working experience on their attitude towards the use of E-tutoring,
iv. The influence of universities stakeholders' area of specialization on their attitude towards the use of E-tutoring.

Research Questions

The following research questions were answered in this study.

i. What is the attitude of university stakeholders towards the use of E-tutoring?
ii. How does gender influence university stakeholders' attitude towards the use of e-tutoring?
iii. How does university stakeholders' working experience influence their attitude towards the use of E-tutoring?
iv. How does universities stakeholders' area of specialization influence their attitude towards the use of E-tutoring?

Research Hypotheses

Based on research questions, the following null hypotheses were tested in this study:

Ho_1: There is no significant difference between male and female universities stakeholders attitude towards the use of E-tutoring

Ho_2: There is no significant difference between the experienced and less-experienced universities stakeholders attitude towards the use of E-tutoring

Ho_3: There is no significant difference between Academic and Technical universities stakeholders' attitude toward the use of E-tutoring.

Significance of the Study

The study should be of importance to Distance Learning stakeholders in higher institutions which include academic and technical staff, distance learners, teaching, learning process, government, curriculum designers, professional organizations, school organizations and researchers.

Related literature

The Emergence and Concept of Open and Distance Learning (ODL) in Education

Distance education breaks up all traditional forms of education by making it lively, stimulating and simple and easy to reach by all (Selvam, 2012). In a traditional method of teaching, various problems are encountered using the traditional method of teaching as a one-way mode of communication in which the teachers often talk for hours lacking students' reaction toward what is been taught, (Teo & Wong, 2000). According to Talabi (2003), traditional method inspires inactive learning, individual differences are overlooked by the instructor who uses the same expressions, speed and subject matter for all the audience at the same time. Besides, sometimes, it boosts indiscipline when leaners turn out to be bored. UNESCO (2002) defined the terms open and distance learning to represent approaches that focus on opening access to education and training provision, freeing learners from the constraints of time and place and offering flexible learning opportunities to individuals and groups of learners.

Based on National Policy on Education (FRN, 2009) the goal of open and distance education are to:

i.   Provide access to quality education and equity in educational opportunities for those who otherwise would have been denied.
ii. Meet special needs of employers by mounting special certificate courses for their employees at their work place.
iii. Encourage internationalization especially of tertiary education curricula.
iv. Ameliorate the effect of internal and external brain drain in tertiary institutions by utilizing experts as teachers regardless of their locations or places of work (p. 45).

The open and distance learning scheme holds a number of potentials for various stakeholders in the education and development process. It provides the learner with more freedom of access and thus, a wider range of opportunities for learning and qualification. It is often a cheaper means of attending school for the student since some people may not be able to leave their places of work to go to school full time. For employers, ODL offer the possibility of organizing in-service training for their staff without necessarily releasing them for long periods of productive time. With sufficient number of employees being trained, ODL is often the most cost-effective means. For the government and educational policy makers, the system is a panacea to

the perennial problem of provision of equitable and accessible education at an affordable and cost effective way, (Ojo, Ogidan, Olakulehin, 2005).

In distance learning there are two primary types of distance learning activities: asynchronous learning (not live or not real-time) and synchronous learning (real-time). In asynchronous learning environment participants log in and communicate at different times depending on what is most convention to them. Example is online individual, team, and whole group discussions, such tools as blackboard discussion board, wikis, blogs, and e-mail (Johns, 2010). While in synchronous learning environment participants are all logged in and communicating at the same time. Example are adobe connect webinar or online chat. Synchronous collaborative learning systems support more or less pre-defined collaborative activities (Lonchamp, 2006). It also involves real-time communication between teachers and students, most commonly in the form of text chat (Johnson, 2006) through the use of Live Online@UT / Blackboard Collaborate and other web conferencing tools, instant messaging, podcast and chat(e-Learners.com 2012,).

Attitudes of an E-tutor towards the use of Information and Communication Technology (ICT) tools

Attitude may serve to explain decisions educators apply to teaching and how they prepare to teach with ICT (Lumpe & Chambers, 2001). As stated by Christensen, (2002); Vannatta & Fordham, (2004), Lecturers' attitudes, qualification and experience are factors associated with ICT use. Furthermore, Seyoum (2008) asserted that the successful implementation of open and distance education system could be affected by how it's viewed by the individuals involved in it. Dawes (2001) was of the view that new technologies have the potential to support education across the curriculum and provide opportunities for effective communication between lecturers and students in ways that have not been possible before.

Kadel, (2005) observed that having ICT in schools will not guarantee their effective use, irrespective of the amount and worth of technology placed in classrooms, the significant to how those tools are used is based on the lecturers; therefore lecturers must have the competence and the right attitude towards this technology. Also, Bassfa, Rozinah, and Merza (2012) asserted that with the advent of computer technology in the field of education, creating and sustaining change in academia learning style can only be proficient if those academia's successfully move from one point of equilibrium to another. This movement can be eased by changing tutors' attitudes towards e-learning tools.

Littlejohn (2002) described attitude as an accumulation of information about an object, person, situation or experience, a disposition to act in a positive or negative way toward something.   Attitudes are generally understood to be formed through a process of individual subjective evaluation (involving a rational assessment of costs and benefits), but also influenced by affective and emotional responses and related beliefs (Roger, 2003). ICT in education has the potential to be influential in bringing about changes in ways of teaching. However, this potential may not easily be realized, as Dawes (2001) highlighted that problems arise the minute lecturers are anticipated to implement changes in what may well be opposing circumstances.

As stated by Roger (2003), Yusuf and Balogun (2011), attitudes are typically measured using two main types of scales: either Likert Scales, where there are five response groups ranging between two extreme positions, e.g. strongly agree and strongly disagree, or using semantic differential questions, which contain a set of opposites, e.g. easy – difficult, and the space between the opposites is graded from 0 expressing the lowest evaluation to 6 representing the highest evaluation, e.g. how would you rate the role of your teacher? Difficult (6) – Easy (0); Irritable (6) – Calm (0); Active (6) – Passive (0).

A person's attitudes, abilities, and cognitive skills encompass what is known as the self-system. This system plays a major role in what way we observe situations and in what way we act in response to different situations(Bandura 1995). Studies have established close relations and similarities between teachers' attitude and their use or competency level of ICT. More positive attitudes towards the computer were associated with a higher level of computer skill (Dyck & Smither, 1996; Teo, 2008).

In an effort to overcome the challenges of integrating ICT into education, the UNESCO in collaboration with Cisco, Intel, Microsoft and International Society for Technology in Education (ISTE) came up with an ICT competency agenda for teachers in 2008 to provide supervision for Ministries of Education and curriculum providers for the first time on how to improve teaching through ICT. Kirschner and Woperies (2003) stressed ICT competencies required by teachers to include competency in making personal use of ICT; mastery of a range of educational paradigms that make use of ICT; competency in making use of ICT as minds tools; competency in using ICT as tool for teaching, competency in mastering a range of assessment paradigms which involves use of ICT; and competency in understanding the policy dimensions of the use of ICT for teaching and

learning. Also, as stated by Salman, Ogunlade, Ogunlade, and Adegbami (2013), to acquire the appropriate knowledge and skills required by students, teachers' professional development, have significant roles to play in the authentic application and sustenance of ICT in schools

Additionally, these roles and competencies rest on the educational context: the learners, learning outcomes, subject matter, other course provision resources, and of equivalent thought are the e-tutor's existing competencies and any gaps in their competencies related to the roles they will be required to fulfill (Brigitte, Philip, Sébastien & Nathalie, 2004). As suggested by Bennett and Marsh (2002), the majority of tutors new to online teaching do not have the background of online learning experience upon which to draw. E-tutors' competencies are also advantageous in the evaluation of the formative path and in assessment. In order to be appropriate in lieu of the designated role, a tutor must have technical knowledge (helpdesk, LMS and electronic communication instruments), course designer competencies, and be able to moderate and promote communication and interaction through the net (Rotta & Ranieri, 2005); moreover, the tutor should be capable of monitoring course progress, the degree of goal attainment, as well as users' satisfaction.

METHOD

Research Type

This study employed a descriptive research of a cross-sectional survey method. A researchers-designed questionnaire was used to collect information from the respondents on their attitude towards the use of E-tutoring.

Sample and Sampling Technique

The population of this study cannot be fully covered, hence, the need for sample. Purposive sampling technique was used to collect data from a sample of 157 academic and technical staff from three universities in South-west Nigeria on their attitude towards the use of e-tutoring. These include University of Lagos, Nigeria Obafemi Awolowo University Nigeria and University of Ibadan ,Nigeria. The researchers made efforts to approach the academic staff and technical staff in the universities for the purpose of obtaining prompt responses.

Validation and Reliability

Two Educational Technology and Distance Learning lecturers from University of Ilorin, Nigeria validated

the instrument to determine the relevance and content coverage. After the necessary corrections were made, the questionnaire was administered on 20 stakeholders from the university and open university of Nigeria in Ilorin,Nigeria . Cronbach alpha was used to test the internal consistency of the instrument and the value was 0.0947 which showed that it was reliable.

Research Instrument

A well structured researchers-designed questionnaire was used to collect data. The copies of the questionnaire were administered personally by the researchers. The questionnaire comprised 2 sections. Section A was for the respondents' bio-data under which gender, area of specialization and working experience of the respondents were categorized and Section B focused on stakeholders' attitude towards the use of E-tutoring for teaching and learning process which contained 16 items and the Likert response mode of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) was used

Procedure for data collection

Data was collected by direct administration. The instrument was administrated to respondents and retrieved immediately after the respondents had filled them.

Data Analysis Technique

Data collected for the study were analyzed using mean and percentage to answer the research question one, while hypotheses one, two and three were analyzed using independent t-test. All hypotheses were tested at 0.05 level of significance.

Demographic Table

The respondents' demographic data are presented in Tables one.

Table 1: Percentage Distribution of Respondents by gender, working experience and area of specialization

Name of Institution	Gender		Working experience		Area of specialization	
	Male %	Female %	5 years and above %	Below 5 years %	Academic staff %	Technical staff %
University of Lagos	26 (57.8)	19 (42.2)	16 (35.6)	29 (64.4)	32 (71.1)	13 (28.9)
Obafemi Awolowo University, Ile-Ife	34 (68.0)	16 (32.0)	24 (48.0)	26 (52.0)	33 (66.0)	17 (34.0)
University of Ibadan	34 (54.8)	28 (45.2)	31 (50)	31 (50)	42 (67.7)	20 (32.3)
Total	94	63	71	86	107	50

RESULTS

Data Analysis

This part presents the result of the analyses on stakeholders' attitude towards the use of E-tutoring.

Research Question 1:

What is the attitude of universities stakeholders towards the use of E-tutoring?

Table 2: Respondents' attitude towards the use of E-tutoring

Stakeholders' attitude towards the use of E-tutoring	Mean
1 I think positively about using E-tutoring for teaching my students	3.55
2 Use of E-tutoring tools will avail me the opportunity to have academic control over my students	3.11
3 E-tutoring usage will increase my daily productivity	3.33
4 The use of E-tutoring tools could be counter-productive due to insufficient technical resources	1.95
5 E-tutoring tools usage could reduce stress and tension inherent in communicating to large class	3.36
6 Using E-tutoring tools will be frustrating	2.89
7 Internet networking problem could hinder the effective use of E-tutoring	1.86
8 Using E-tutoring tools is always cumbersome	2.74
9 Instructional delivery via E-tutoring saves a lot of time when communicating with students in the class	3.24
10 I feel confident connecting to the internet homepage that I want for E-tutoring	3.27
11 Instructional delivery via internet will allow me to arrange my work for the class effectively	3.32
12 The teaching/learning process will become easier with the use of E-tutoring resources	3.31
13 E-tutoring could make my interaction with my students more interesting and enjoyable	3.28
14 I will be willing to undertake professional development to gain competency in the integration of E-tutoring for educational purpose	3.46
15 I will advocate for the use of E-tutoring because of its convenience and relevance to learning	3.46
16 If I have an opportunity to take another course via E-tutoring, I will gladly do so	3.48

The result in Table 2 reveals that universities stakeholders think positively about using E-tutoring for teaching their students with the highest mean score of 3.55. This was followed by if opportunity is given to take another course via E-tutoring they will gladly do so with a mean score of 3.48. Items 14 and 15 both having a mean score of 3.46.

More so, item 5 with a mean score of 3.36, item 3 with a mean score of 3.33. Also item 11 with a mean score of 3.32 and so on.

However, the results suggest generally attitude of universities stakeholders towards the use of E-tutoring was positive. On the whole, the grand mean score on universities stakeholders attitude towards the use of E-tutoring was 3.10. Using a benchmark of 2.0, it could be inferred that the respondents generally had a positive attitude towards the use of E-tutoring.

Hypotheses Testing

Based on research questions two to four, research hypotheses one to three were formulated. The results related to hypotheses one to three formulated in this study are shown in subsequent Tables. All hypotheses were tested at 0.05 level of significance.

Hypothesis One

Ho$_1$: *There is no significant difference between male and female universities stakeholders attitude towards the use of E-tutoring*

In an attempt to determine whether there was any significant difference between male and female universities stakeholders' attitude towards the use of E-tutoring, independent t-test was used for the null hypothesis as shown in Table 3.

Table 3: t-test of Male and Female universities stakeholders on their Attitude towards the use of E-tutoring

Gender	No	$\overline{X}$	SD	df	t	Sig. (2-tailed)
Male	94	50.17	5.48	155	1.49	.13
Female	63	48.79	5.91			
Total	157					

From Table 3, it can be deduced that there was no significant difference between male and female universities stakeholders attitude towards the use of E-tutoring. This is reflected in the result: df (155), t = 1.49, p > .05. That is, the result of t-value of 1.49 resulting in .13 significance value was greater than 0.05 alpha value. Thus, the hypothesis is not rejected. This implies that there was no significant difference between

male and female universities stakeholders attitude towards the use of E-tutoring.

Hypothesis Two

Ho2: *There is no significant difference between the experienced and less-experienced universities   stakeholders attitude towards the use of E-tutoring*

To determine whether there was any significant difference between experienced and less-experienced universities stakeholders attitude towards the use of E-tutoring, independent t-test was used for the null hypothesis as shown in Table 4.

Table 4: t-test of experienced and less-experienced universities stakeholder on their Attitude towards the use of E-tutoring

Experience	No	$\overline{X}$	SD	df	t	Sig. (2-tailed)
5 years and above	71	49.20	5.73			
				155	-.84	.40
Below 5 years	86	49.79	5.65			
Total	157					

From Table 4, it can be deduced that there was no significant difference between the experienced and less-experienced universities stakeholders attitude towards the use of E-tutoring. This is reflected in the result: df (155), t = -.84, p > .05. That is, the result of t-value of -.84 resulting in .40 significance value was greater than 0.05 alpha value. Thus, the hypothesis is not rejected. This implies that there was no significant difference between the experienced and less-experienced universities stakeholders attitude towards the use of E-tutoring.

Hypothesis Three

Ho3: *There is no significant difference between Academic and Technical universities stakeholders' attitude toward the use of E-tutoring*

In determining whether there was any significant difference between Academic and Technical universities stakeholders' attitude towards the use of E-tutoring, independent t-test was used for the null hypothesis. Table 5 shows this.

Table 5: t-test of Academic and Technical universities stakeholder on their Attitude towards the use of E-tutoring

Experience	No	$\overline{\text{X}}$	SD	df	t	Sig. (2-tailed)
Academic staff	107	50.14	5.74	155	1.69	.09
Technical staff	50	48.50	5.44			
Total	157					

From Table 5, it can be deduced that there was no significant difference between Academic and Technical universities stakeholders' attitude towards the use of E-tutoring. This is reflected in the result: df (155), t = 1.69, p > .05. That is, the result of t-value of 1.69 resulting in .09 significance value was greater than 0.05 alpha value. Thus, the hypothesis is not rejected. This implies that there was no significant difference between the Academic and Technical universities stakeholders attitude towards the use of E-tutoring the use of E-tutoring.

Summary of Findings

The findings of this study based on the research questions and the hypotheses formulated were summarized as follow:

1. Universities stakeholders had a positive attitude towards the use of E-tutoring for distance learning.
2. There was no significant difference between male and female universities stakeholders' attitude towards the use of E-tutoring.
3. There was no significant difference between the experienced and less-experienced universities stakeholders attitude towards the use of E-tutoring
4. Moreover, there was no significant difference between Academic and Technical universities stakeholders' attitude toward the use of E-tutoring.

DISCUSSION AND CONCLUSIONS

Discussion

The result of the mean value showed that the respondents had positive attitude to the use of e-tutoring. This implies that e-tutoring will be a welcome idea if it is integrated into teaching and learning.This is in support of Player Koro (2012) who submitted that teachers who embraced ICT had positive attitude towards using it in education. More importantly, gender had no influence on their attitude

which implies that both male and female had positive attitude towards e-tutoring

Conclusions

This research investigated university stakeholders' attitude towards the use of E-tutoring for distance learning in Nigeria. The result obtained also in the study indicated that the attitude of universities stakeholders towards the use of E-tutoring was positive.

It also showed that there was no significant difference between male and female stakeholders' attitude towards the use of E-tutoring. Furthermore, there was no significant difference between experienced and less experienced on their attitude towards the use of E-tutoring. Finally, there was no significant difference between stakeholders' (academic and technical staff) attitude towards the use of E-tutoring. This implies that universities stakeholders are positively about using E-tutoring for teaching my students.

Based on the findings and conclusions drawn from this study, it was recommended that e-tutoring should be more incorporated into diatnce learning since tutors have the opportunity to take another course via e-tutoring, they are will gladly do so.

REFERENCES

Bassfar, Z., Rozinah, J., & Merza, A. (2012). Investigate the self-efficacy and attitudes of teachers towards e-learning in Saudi Arabia. *International Journal of Scientific & Engineering Research*, 3(6). Retrieved from http://www.ijser.org

Bennett, S., & Marsh, D. (2002). Are we expecting online tutors to run before they can walk? *Innovations in Education and Teaching International*, 39 (1), 14-20.

Brigitte, D., Philip, W., Sébastien, P. & Nathalie, V. (2004). Roles and Competencies of the e-Tutor. Retrieved from http://goo.gl/v46IXm

Catherine, W. (2012). Online collaborative learning in health care education. *European Journal of Open, Distance and E-Learning*. Retrieved from http://files.eric.ed.gov/fulltext/EJ979596.pdf

Christensen, R. (2002). Effects of technology integration education on the attitudes of teachers and students. Journal of Research on Technology in Education, 34, 411-433

Dawes, L. (2001). What stops teachers using new technology? In M. Leask (Ed.), *Issues in Teaching using ICT*. London: Routledge, 61-79

Dyck, J. L. & Smither, J. A. (1996). Older adults' acquisition of word processing. The contribution of cognitive abilities and computer anxiety. *Computer in Human Behavior, 12* (1), 107-119.

e-Learners.com (2014). Synchronous vs. asynchronous classes [blog]. Retrieved from http://goo.gl/4Zb1Tn

Helland, K. (2002). Perception of Distance Learning and the Effects on Selection Decision. Retrieved from http://bus.utk.edu?iopsyc/pdf/Perception-of-Distance-Education-siop2003.pdf

Johns Hopkins University School of Education, Center for Technology in Education (2010). Synchronous vs. asynchronous distance learning activities. Retrieved from http://goo.gl/9r754N

Johnson, G. M. (2006). Synchronous and asynchronous text-based CMC in educational contexts: A review of recent research. *TechTrends. 50* (4), 46-53

Kadel, R. (2005). How teacher attitude affect technology. *Learning and leading with Technology*, 39 (5), 34-47.

Kirschner, P. & Woperies, I. G. J. H. (2003). Pedagogic benchmarks of information and communication technology in teacher education. *Technology Pedagogy and education,* 12 (1), 127-149

Len, D. (n.d). ICT in education is important. Retrieved from http://www.naace.co.uk/resources/1068

Littlejohn, S. (2002). Theories of human communication. California:Wadsworth Thomson Learning.

Lonchamp, J. (2006). Supporting synchronous collaborative learning: a generic, multi-dimensional model, *International Journal of Computer Supported Collaborative Learning, 1*, 247–276.

Lumpe, A. T., & Chambers, E. (2001). Assessing teachers' context beliefs about technology use. *Journal of Research on Technology in Education*, 34, 93-107.

Mills, L. A., Knezek, G. A., & Wakefield, J. S. (2013). Learning with social media: Measurement tools for understanding information behavior in technology pervasive environments of the 21st century. *iConference,* 593-600. Retrieved from http://goo.gl/cZmNwD

Ojo, O. D., Ogidan, R., and Olakulehin F. K. (2005). Cost-effectiveness of Open and Distance Learning in Nigeria: Responses from focus group discussion. Retrieved from http://goo.gl/r0BBW3

Player-Koro, C (2012) Influencing Teachers' use of ICT in Education *Education Inquiry 3(1),93-108 Retrieved from http:goo.gl/wpNZjl*

Rodgers, S. & Chen Q. (2002). Post-adoption attitudes to advertising on the internet. J. Advert. Res. 42 (5). Retrieved from EBSCO database.

Rogers, E. M. (2003). *Diffusion of innovations*, (5th Ed), New York: The Free Press. Retrieved from http://goo.gl/Q7IQJG

Rotta, M. & Ranieri, M. (2005), *E-tutor. Identità e competenze*, Trento, Erickson.

Salman, M. F., Ogunlade, O. O., Ogunlade, A. A. & Adegbami, O. A. (2013). Assessment of secondary school teachers' professional development in the use of information communication technology for teaching mathematics in Ejigbo, Nigeria *IOSR Journal of Research & Method in Education (IOSR-JRME) e-ISSN: 2320–7388,p-ISSN: 2320–737X, 2(1) 48-55 www.iosrjournals.org*

Selvam, S. K. (2012). *Distance education as Dynamic role.* India: S. K. Mehra for Random Publications.

Seyoum, Y. (2008). Stakeholders' perceptions and concerns on open and distance education in the higher institutions: The case of eastern Ethiopia. *Turkish Online Journal of Distance Education-TOJDE,* 9 (2), 138 -159

Sweeney, T. & Geer R. (2012). Contemporary learning with ICT. *ACEC2012: ITs Time Conference Perth, October 2nd -5th2012*, (pp.1-8). Perth Australia. Retrieved fromhttp://goo.gl/46Hc7J

Talabi, J. K. (2003). *Educational technology: methods, tools and techniques for effective TEACHING.* Winneba: University of education.

Teo, R. & Wong, A. (2000). Does Problem Based Learning Create A Better Student: A Refelection? *Paper presented at the 2nd Asia Pacific Conference on Problem –Based Learning: Education Across Disciplines*, December 4-7, 2000, Singapore.

Teo, T. (2008). Pre-service teachers' attitude towards computer use: A Singapore survey. *Australian Journal of Educational Technology, 23* (4), 413-424.

UK.Essays. (2013). Information and Communication Technology Education Essay. Retrieved from http://goo.gl/WtJcaG

UNESCO (2002) Open and Distance Learning: trends, policy and strategy consideration. Paris, UNESCO

Vannatta, R. A., & Fordham, N. (2004). Teacher dispositions as predictors of classroom technology use. *Journal of Research on Technology in Education*, 36, 253-271.

Xueming, L. (2002). Uses & gratifications Theory and E-consumer Behaviours: A structional Equation Modeling study. *Journal of Interactive Adverstising*, 2(2), 34-41. Retrieved from http:/jiad.org/download0345.pdf?p=22

Yusuf, M. O. & Balogun, M. R. (2011). Student-teachers' competence and attitude towards Information and communication technology: A case study in a Nigerian University. *Contemporary Educational Technology, 2* (1), 18-36.