# RESPONSIBILITY OF SCHOOL'S LEADERS IN TACKLING THE E-LEARNING BARRIERS IN TECHNICAL AND VOCATIONAL EDUCATION HIGHER INSTITUTIONS

Mohd Khata Jabor, Magaji Ibrahim Sale, Ahmad Aliyu Deba, Aede Hatib Musta'mal, Abubakar Sadiq

[1]Faculty of Education, Universiti Teknologi Malaysia, Skudai Johor Bahru, Malaysia
[2]School.of Technical Education, F.C.E (Technical) Gombe, Gombe State, Nigeria
[3]Vocational & Technical Education Programme, A.T.B.University, Bauchi, Bauchi State, Nigeria

ahmadaliyu@yahoo.com

## Abstract

This conceptual reviewed paper looks critically at the trend of information and communication technology especially now that the implementation of e-learning is gaining more relevance in Nigerian tertiary institutions. It discusses the level of preparedness in terms of the required skills by Technical and Vocational Education (TVE) teachers, availability of infrastructures and other constraints in using the ICTs for effective teaching and learning. Beside, leadership strategies ranging from school administration, executive leaders and policy makers roles were also discussed as a vital component in line with the outlined barrier to TVE teacher preparedness to e-learning. Specifically, the study sought to answer four among the most critical questions that need to be addressed for effective implementation of e-learning in Nigerian tertiary institutions. The paper concluded by suggesting strategies based on the four questions stated in this study. Amongst are urgent step needs be taken by school and executive administrators and policy makers in the training of TVE teachers in the relevant ICTs areas through in-service training and seminars/workshops.

## Key Words

Information and Communication Technology (ICTs), Technical and Vocational Education TVE Teachers and Leadership

## Introduction

Information communication Technology ICTs is increasingly becoming more widespread throughout tertiary institutions in many countries including Nigeria and other African nations. Advantages offers by ICTs have made Authors, for instance Yekini, Rufai, Adetoba, Akinwole, & Ojo, (2012) to recommends that the new reforms in higher education can best be supported through the utilization of the advantage offered as a result of the new advancement of ICTs. Many tertiary institutions in the developing countries like Nigeria, Mauritania, Ghana, Uganda and many more have understand great roles of this valuable technological paradigms and turning to use of it in the form of what it is refers to as e-learning as complement to teacher led tuition on campuses. The vital role of TVE in the production of skilled and competent personnel necessary for economic, social, industrial, and technological development cannot be achieved if an effective and efficient learning and teaching process is not maintained in the programme. In reality, according to Aina (2009) and Sukri & Shu'aibu, (2013) stated that the success of all plans concerning technology and industrial development depends to a large extent on the ability of TVE to raise and have dedicated ICTs and on the same vein on the ability of the programmes to raise competent TVE teachers. The teacher in any form is a strategic to the development of the education. In this regard, Samuel & Olusiji (2013) revealed that if the quality of the TVE teacher is not adequately enhanced through effective teacher preparation programmes to become intelligently richer, more challenging and extended beyond pre-service training into a system of continuous professional career development, the nation's dream self reliable nation through scientific and technological development will be an illusion.

It has become very paramount for TVE teachers to be technologically literate enough to apply the modern ICT such as the computer, internet, and the internet technologies to make use of them in their instructional delivery in order to be able to critically face the challenges of the present global information world. This is one of the ways to produce TVE graduate that can compete with their counterpart in the global workforce. However, e-learning in its broadest sense according to Bappa-Aliyu, M. (2012) refers to instruction delivered via an electronic media including the internet, intranets, extranets, satellite broadcast, audio/video tape, interactive television, CD-ROM. In the view of Robinson & Robertson, (2010) e-learning mean using ICT in teaching and learning. In another development the concept of e-learning according to Olele & Williams (2012) is broadly interpreted to embrace any teaching and learning activity that involves the use of ICT. Beside all, proponents of ICT in education for instance, Jegede (2011) has made it clear that one of the most cited reasons for using ICT in the classroom has been to better the current generation of students for a workplace where ICT particularly computers, the internet and related technologies are becoming more and more ubiquitous. The ability to use ICTs effectively and efficiently is thus seen as representing a competitive edge in an increasingly globalizing job market.

## The potentialities of E-learning in Higher Education

Numerous researchers around the world are having common opinions about the importance of elearning toward sustaining sound education in schools. For instance, it enhancing access to quality education as it has potentials of reaching out to so many learners and offering education where quality is not compromised (Ukwungwu 2004), improves educational

delivery system as it aids teachers and students in the teaching and learning processes (Wuru, 2008), promotes self learning capabilities of ICT-enabled education and enhance mastery of subjects by University students as well as teachers, enables optimal utilization of existing ICT facilities (Olele & Williams 2012), reduces and even eliminate anti social activities in the school system (Tondeur, et al, 2008) and indeed encourage global competitiveness in the education system (Samuel, & Olusiji, 2013). The fact that relevant literatures revealed positive breakthrough of e-learning system, yet barriers to it integration in the educational system particularly TVE remain a matter of concern.

TVE teacher programme in tertiary institutions may therefore either assume a leadership role in the transformation of TVE or to be left behind in the swirl of rapid technological change. According to Agumuo (2005) for TVE teachers reap the full benefits of ICT for effective elearning in tertiary institutions, it is essential that pre-service and in-service TVE teachers have basic ICTs skills and competencies. The need for having these basic literacy components is deemed necessary because e-Learning is now an essential component of education.

Everything that higher education leaders do, such as creating effective learning environments, creating positive relations with the community, managing the staff, establishing a vision, setting goals, building support systems for staff and students, and monitoring effective instruction, must be in service of student learning (IEL, 2000). Knowing the great roles of technology today, educational leaders are challenged to find which leadership practices effectively influence teachers to improve their instructional techniques and to continue their professional development and growth, in addition to focusing their attention, and the attention of the entire school community, on student learning through the use of ICT. "As studies show the crucial role that higher education leaders can play in improving teaching and learning, it is clear that these leaders today must also serve as leaders for student learning" (UNESCO 2002). The traditional hierarchical leadership styles, once The traditional hierarchical leadership styles, employed by principals and other school administrators are not sufficient for schools today. Rather, educational leaders are expected to be learning leaders (Reeves, 2006) who also have the capacity to nurture relationships and foster the ability to shape schools into learning communities. This library research paper is guided by four research questions deliberately formulated to answer e-learning readiness of TVE teachers in tertiary institutions as follows:

1. What is the status of e-learning in TVE tertiary institutions in Nigeria?
2. What are the ICT skills needed by TVE teachers to be able to use and apply ICTs in their teaching activities?
3. What are the constraints to the adoption of e-learning among TVE teachers in tertiary institutions?
4. What are the leadership strategies to be adopted for effective skills acquisition in ICTs by TVE teachers for effective implementation of e-learning?

**Status of Information and Communication Technology Infrastructure**

According to the UNESCO (2002) world report which stressed the need that a country's educational technology infrastructure must sits on top of the national telecommunication and information infrastructure and hence, before any ICT based

programme is implemented policy makers, educational planners and school administrators must carefully consider the following:

1. Are there appropriate rooms or building available to house the technology?

2. Another basic requirement is the availability of electricity and telephone is miles away

3. The third factor to be considered ubiquity of different types of ICT in the country in general and in the educational system (at all levels) in particular. for instance, a basic requirement for computer-based learning or on-line learning is access to computers in schools, communities as well as affordable internet services

Technology optimist expressed great expectations for the potentials of ICT in future attempt to address the most pressing challenges in Nigerian education. In the African tertiary institutions connectivity survey (ATICS) (2004), Nigeria was represented by 8 universities and the summary of the findings from the survey conducted prove abortive about adequacy of ICTs facilities. The summary extracts are as follows:

1. None of the Universities surveyed has access to International Fibre and are likely to rely on satellite connectivity in the near future

2. Broadband capacity for the institutions surveyed is well under what is now considered as household norms in the USA and Europe

3. Rate charged per kbps/month are exorbitant compared to the rates charged in USA and Europe. VSAT companies are the most experience

4. Donor initiatives and academic networks have the largest bandwidth, whereas the smallest average bandwidth was recorded for institutions using private ISPs

5. The formation of consortia has been useful to enhancing bandwidth quality and reduced cost elsewhere in the world

6. There are considerable differences in levels of computer access between distributions

7. The number of users per computer combined with the bandwidth available per computer determines the utility of the internet for each user. In some institutions loading a single webpage takes several minutes and the used of web based mail, electronics journals and scientific databases will be virtually impossible

According to Moon (2005) in the 2003 e-learning readiness ranking, compiled by the Economist Intelligence Unit, Nigeria was ranked 60 out of 60. Moon concluded that it is probably safe to predict that Nigeria Public will be barred from general access to the modern ICTs for a long time because quite preferred factors indigenous to Sub-saharan Africa will continue to influence the development negatively. It is against this background that Ndukwe (2006) regretted the extensive lack of basic ICT skills among Nigeria teachers and students in tertiary institutions. Many ICT advocate have connect access to technology and competence in using it. For instance Moon (2005) opined that access to technology and competence in using it are mutually interdependent on each other. As such it is right to pronounce that competence in using modern ICTs cannot be developed without access to the same technology. On the other hand investment in technology will soon prove futile if competence in the use of the same technology is not developed.

## BARRIER TO THE INTEGRATION OF ICT IN TVE

Modern technology offer many means of improving teaching and learning in the classroom. Dawes (2004) opined that new technologies have the potential to support education across the curriculum and provide opportunity for effective communication between teacher and students in ways that have not been possible before. ICT in education has the potential to be influential in bringing about changes in ways of teaching. However, these potential may not be easily realized as stated by Dawes without effective competency of the teacher. The issue of TVE teacher ICT competency in Nigeria remained a top topic of debate among TVE practitioners. For instance, Albirini (2009), Al-Alwani (2005) and many to mentioned stated that problem arise when teachers are expected to implement changes in what may well be adverse circumstances.

Due to importance of ICT in the society and education in particular identifying the possible obstacles to the integration of these technologies in the education specifically TVE would be an importance step in improving the quality of learning and teaching in the field of TVE. The act of integrating ICT into learning and teaching is a complex process and one that may encounter a number of difficulties. Difficulties affecting the integration of ICT in TVE according to Schoepp, (2005) are known as barrier. These barrier are been categories as 'intrinsic' and 'extrinsic' barriers. These two forms of barriers are view by researchers from different point views. Ertmer, (1999) referred to extrinsic barrier as first-order and cited time, support, resources and training. While according to this researcher intrinsic barrier as second-order and cited attitude, beliefs, practices and resistance. Other researchers such as Al-Alwani (2005) viewed extrinsic barrier as pertaining to organization rather than individuals and intrinsic barrier as pertaining

teachers, administrators and individuals. Likewise, Albirini (2009) has grouped barriers as teacher-level barriers and school-level barriers. For the purpose of this library work the barrier to e-learning integration in TVE will be view based on the opinion of Albirini as follows:

### TEACHER-LEVEL BARRIERS

Teacher-level barrier to e-learning in many countries has remained a point of debate among researcher in the field TVE. Many researchers have shed light to this aspect of barrier as one of the contributory factor that militates against e-learning in developing countries. Teacher-level barrier have been outlined to include but not limited to:

1. **Lack of Teacher confidence:** several researchers for instance Beggs (2008) and Dewes (2001) among others indicate that one barrier than prevent teachers from using ICT in their teaching is lack of self-assurance. Teachers lack self confidence with the use ICT for fear of failure (Beggs (2008). According to him limitation in teacher's knowledge makes them feel anxious about using ICT in the classroom and thus not confident to use it in their classroom teaching.

2. **Lack of Teacher Competence:** another similar barrier that relate to teacher about the use of e-learning in school is lack of teacher competence in integrating ICT into their pedagogical practices. Albirini (2006), likewise Bingimlas (2009) observed that lack of technology competence serve as one of the main barrier to their acceptance and even the adoption of ICT in their instruction delivery. Research finding from a worldwide survey conducted by Pelgrum (2001) revealed that teachers' lack of knowledge and skills in the area of ICT is a serious obstacle to using ICT at all levels of Education.

3. **Resistance to Change and Negative Attitude:** research findings such as Albirini (2006) and Schoepp (2005) among others indicated that teacher's attitude and inherent resistance to change was significant barrier to e-learning in most developing countries including Nigeria and this has made many teachers not to adopt ICT into the classroom for their instructional activities. They also showed that teachers who resist to changes specifically to do with technology are not rejecting the need for change but lack the necessary education in accepting that changes and are given insufficient long-term opportunities to make sense of the new technologies for themselves.

### SCHOOL-LEVEL-BARRIER TO E-LEARNING IN TVE

Despite teacher-level-barrier to e-learning in TVE some barrier are considered by other researchers as school-level-barrier to comprise the following:

**Lack of time:** research findings such as begs (2000), Al-Alwani 92005) and Albirini (2006) among other indicate that teachers who have competence and confidence in using ICT in the classroom still make little use of technologies because they do not have enough time. This includes the time the teachers have to plan technology lessons, explore the different internet sites or look at various aspect of educational software. Also they lack the time needed to prepare lessons, explore and practice using the technology, deal with technical problems and receive adequate training.

**Lack of Effective Training:** research findings such as Beggs (2000), Schoepp (2005) and Sicilia (2005) among other showed that there was not enough training opportunity for teachers on the use of ICT in a classroom environment. According to Albirini (2006) the issue of training has to do with several components to ensure effectiveness of the training in digital literacy, lack of pedagogic and didactic training on how to use ICT in the classroom and lack of training concerning the use of technologies in technology specific areas were recognized as obstacles to using new technologies in the classroom.

**Lack of Accessibility:** the barrier relating to accessibility of new technologies for teachers are wide spread and differ from country to country (Empirica, 2006). In general these barriers include insufficient number of computers, insufficient peripherals, and insufficient number of copies of software and insufficient simultaneous internet access. Other includes lack of appropriate infrastructure and a lack of appropriate material resources. Similarly, Olele & Williams (2012) asserts that poor choices of hardware and software and lack of consideration of what is suitable for classroom teaching are problems facing many teachers. These limitations influence teachers' motivation to use ICT in the classroom.

**Lack of Technical Support:** without adequate technical support both in the classroom and whole school resources, teachers cannot be expected to overcome this barrier. These technical barriers include waiting for websites to open, failing to connect to the internet, printer not printing, malfunctioning computers and teachers having to work on old computers. In teaching TVE studies by Gomes (2005) revealed that integration of ICT in TVE teaching and learning needs a technician to constantly check the system or devices.

### Strategic Leadership Roles for Effective Implementation of E-learning in TVE

Leadership can either hinder or support the implementation of technology in higher education, as decision makers develop policies, they must consider how the policies affect acquisition of and access to technologies for e-learning. Policies related to

use of technology should also support the use of technology rather than obstruct it. According to Chitana et al (2008) if the provision of e-learning is to become a key element in any educational institution, government in collaboration with professional bodies should provide a programme for staff development and regular retraining of teachers in the area of ICT skills identified in the study. Other strategies included the following:

1. Provision of E-learning infrastructure and a range of e-learning tools that are of high quality

2. Effective collaboration among departments and institution for the provision of information, training and support required by teachers and student in the use of e-learning tool and facilities

3. School administrators should identify Universities and other tertiary education curricular areas where e-learning could be employed to both effect and promote the use of elearning in these areas

4. Higher institutions leaders should establish mechanism to support academic staffs in using e-learning facilities and tools to beat effect in the development and delivery of instructions.

## Conclusion

ICT is increasingly becoming more widespread throughout tertiary institutions in many countries across the world including developing countries like Nigeria. Access and competence to ICTs should go along with the access to the same technology. Developing a high competence level in the pedagogical uses of ICTs will continue to be a challenge in educational institutions. A well defined policy for the training of TVE teachers in these new technologies area should be made and also appropriate facilities should be put in place to be supported with adequate funding and good maintenance culture.

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