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Volume No.4 Issue No.4 December 2015

www.iresearcher.org

ISSN 2227-7471

THE INTERNATIONAL RESEARCH JOURNAL "INTERNATIONAL RESEACHERS"

www.iresearcher.org

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ABSTRACT

The success of integrating information and Communication technology into the educational system depends largely on the skill, knowledge and manipulative competency level of the teacher Therefore, this paper is focused on the utilization and roles of e-learning for an effective teaching and learning of vocational technical education courses in Nigeria tertiary institutions. It covered the concept of e-learning; concept of utilization of educational resources; teacher's competency and utilization of e-learning facilities; the roles of the technical teacher in the practical application of e-learning for effective teaching and learning of vocational and technical education courses; and e-learning and competency development of students. It was concluded that effective utilization of e-learning will enhance the teaching of vocational and technical courses in Nigeria tertiary institutions and there were shortage of experts, high illiteracy level of students and teachers in computer; lack of equipment etc. which hinders the effective utilization of e-learning in teaching and learning vocational and technical education courses. And it was recommended that the Government should provide computerized or digital libraries in all departments in the tertiary institutions for easy accessibility of information, and to tackle the problem of constant power failure in order to ensure steady supply and use of electricity.

Keywords: Information and communication technology, e-learning, vocational and technical education, teaching and learning, digital library.

1. INTRODUCTION

To generate a desirable change in the learning ability of the students, good teaching must take place and to bring about good teaching, teachers should be able to convey their message in the simplest, most convincing and practical way to the learners through the use of resources available to the education industries. These resources are sometimes properly utilized, underutilized or over utilized. A key overarching goal for any committed educator is to ensure that the learner has a meaningful and memorable learning experience, while achieving the desired learning outcomes. In this paper it is argued that in order to achieve such a goal, a strategy needs to be put in place that is capable of providing students with a fully integrated, all-encompassing learning environment. The reason is that learning will not necessarily emanate from one specific source alone and, when it happens, it will occur through different means for different people.

On-line delivery of education can no longer be regarded as a fad or confined to the realm of the needy. The point of departure in this paper is that, after centuries of very little change in educational methods, there is now the brink of a major paradigm shift in which a key factor is the "disruptive technology" of E-learning (Hart & Christensen, 2002).

This development is to be welcomed because of the vast opportunities it presents to people who are currently poorly served or not served at all by educational institutions. However, while the benefits of this technology facilitated liberation of education are well documented, Hart and Christensen, (2005), opined that e-learning continues to suffer from the "non-reorganization" syndrome in Nigeria, where people talk about it, but they do not know how to get there. One of the reasons for this is that e-learning is still in its infancy as a body of knowledge in Nigeria. It is possible to say that a grand unifying theory of e-learning thus remains elusive and e-learning practitioners continue to operate largely on the basis of trial and error in Nigeria (Nichols, 2003). The need therefore arose to address the extent to which vocational and technical teachers applied e-learning for effective teaching of their courses in tertiary institutions in Nigeria.

The technological advancement in recent times has immensely transformed teaching methodology through the effective use of instructional materials (Tamunodienyi, 2006). The advent of information and Communication Technology (ICT) has promoted learning and made it more effective. The aspect of ICT that has brought about this revolution in students' learning is e-learning**.** It is obvious that the provision of e-learning facilities, training and retraining of teachers to teach these vocational and technical courses has become very important.

In Nigerian tertiary institutions, it appears there are inadequate e-learning materials to be used for improving teaching and learning. Also, problem of non-usage of e-learning is a major concern in teaching students in the higher institutions. Shortage of experienced and skilled personnel is another posing problem in utilizing e-learning in teaching vocational courses effectively and efficiently. Further, the non availability of vocational and technical teachers who are computer literate is another major problem of teaching with e-learning facilities. What is therefore e-learning?

2. CONCEPT OF E-LEARNING

Students' learning in tertiary institutions all over the world has undergone tremendous transformation, especially since the advent of Information and Communication Technology (ICT). There is a shift from the traditional approach of the teacher, from the direct/didactic to modern method where computer technology plays a significant role. ICT has promoted learning and made it more meaningful where students can stay even in their homes or classrooms and receive lectures without seeing the lecturer. The aspect of ICT that has brought about this revolution in students' learning is e-learning.

E-learning as explained by Open Learning Centre (2007) is an educational resource that helps in effective teaching and learning process created through combining e-digital content with local community and tutor support, along with global community engagement. It is also an effective and efficient system of self-paced personal training available over the internet. David (2009) defined e-learning as instructional content or learning experiences delivered or enabled by electronic technology. Also, Erah (2006) stated that the term e-learning refers to computer-enhanced training as opposed to the computer-based training of the 1980s. It is usually delivered in a personal computer and included learning delivered by other communication technologies.

The devices often used for this purpose include: laptops or personal computers, CD ROMs, Television, Personal Digital Assistants (PDAs). MP3 Players and Mobile Phones. Communication Technologies enables the use of internet e-mail, discussion forms, collaborative software, classroom management software, intranet, extranet, Local Area Network (LAN), Wide Area Network (WAN), audio and videotapes, satellite down links, Computerized diagnostic assessment, competency certification and electronic portfolios (Asogwa, 2006).

E-learning is facilitated and supported through the use of ICT. It is based on electronic formats (Bode, 2005). It can benefit any students or teacher irrespective of the background and department in course of study. A key issue in pedagogy is individualization that is; adapting the teaching to the needs of various learners. E-learning provides this by accelerating the required courses which eventually lead to increased graduation rates and lower failure rates of students. Furthermore, it promotes equity by providing students with access to courses which may not ordinarily be available and giving teachers the opportunities of various materials for teaching (Asogwa, 2006).

Utilization of educational resources (e-learning) refers to and connotes the equitable use of resources accruable to the education industry. As Ajie (2009), pointed out that there are three principal states in the utilization of resources. These include the sourcing of inputs, which may be human or physical inputs, the processing of the inputs through the use of theories and techniques to enhance the stages of the input or resources and the delivery stage where the required outcomes are produced.

In addition, the quality of the education and training given to students depends greatly on the ability of institutions to achieve their educational content to the changing skill requirements of the nation. In other words, educational institution are expected to provide knowledge and training that satisfies the human resource demands of the nation and nation's economy (Manyindo and Luguijo, 2005).

3. TEACHERS' COMPETENCY AND UTILIZATION OF E-LEARNING FACILITIES

Tamunodiemy, (2006) said that as numerous developments in technology are affecting vocational education and training, traditional ways of teaching are changing. The traditional ways of teaching only appeals to a small minority of people. The traditional classroom environment can often neglect factors that are essential for learning (use of instruction materials, etc). Presently in Nigeria, most learners are taught by the traditional approaches which often place the learners in the passive role. Teachers are therefore compelled by the learner heterogeneity to provide alternative unit of instruction and strategies to enable the students attain educational objectives at their own rate. But the self-efficacy expectations mediate the actual involvement of teacher in a particular teaching process (Taylor, 2008). Before a teacher can be expected to use computer and information and Communication technology to impact knowledge to the learner, such a teacher should know and be competent in the use of ICT facilities.

Therefore, training of teachers in the use of ICT facilities become an urgent and essential matter, since most software's has to be developed by the teacher themselves. Intensive training should therefore be designed to update the teachers regularly since there is dynamism in the area of technological growth. The use of e-learning facilities becomes an excellent tutorial tool and can help teachers to become more efficient and effective for teaching vocational and technical education courses in tertiary institutions in Nigeria (Erah, 2006).

3.1 Roles of the technical teacher in the practical application of e-learning for effective teaching of vocational and technical education courses

Teaching is a very crucial job, so teachers need to understand a subject enough to be able to convey its essence to students. While traditionally this has evolved lecturing on the part of the teacher, new instructional strategies has put the teacher more into the role of active learner, discovering the subject of the course. In any case, the goal is to establish a sound knowledge base and skill set on which students will be able to build upon as they are exposed to different life experiences through the new instructional strategies that are involved in e-learning by the teacher. Good teachers can manipulate instructional strategies and translate information, good judgment, experience and wisdom into relevant knowledge that a student can understand, retain and pass to others (Taylor, 2008).

Will (2008) also states that the quality of teachers is the single most important factor affecting student's achievement and that countries which score highly on international test have multiple policies in place to ensure that the teachers are as effective as possible in the use of e-learning materials and must be adequately qualified. Therefore, new teaching methodologies increased the importance of students self learning with teacher effectively performing his role of:

1. Content facilitator, concerned with facilitating the growing understanding of the vocational education course content.
2. Technologist, concerned with making or helping make technological choices that will lead to the improvement of the environment available to learners.
3. Designer, concerned with designing worthwhile vocationally inclined learning tasks.
4. Manager or Administrators, concerned with managing e-learning facilities.
5. Process facilitator, concerned with facilitating the range of e-learning activities that are supportive of students learning their vocations; and
6. Researcher, concerned with engagement in production of new knowledge of relevance to the content areas being taught in the various vocational education courses.

Furthermore, the use of 'Poliformat', an intranet service which is based on creating a feature rich learning environment, made possible through the introduction of substantial changes in the practical sessions leading to a better application of e-learning in the teaching methodologies of vocational education courses (Kelly, 2007). Also, the use of virtual classroom drill and simulators can be applied in teaching and learning of vocational education courses in Nigeria tertiary institutions.

3.2 E-learning and Competency Development of Students

The slogan "if I hear, I forget; if I see, I remember and if I practice, I can understand and cannot forget", implies that e-learning principle can help in the competency development of students in all spheres of education generally and vocational education in particular. The society is rapidly yearning for students who can manipulate resources to yield a corresponding increase in other sectors of the Nigeria's economy through vocational and technical education programme. Consequently, Bode (2005) posits that in view of the demand, e-learning should be seen as offering solutions to several of the challenges currently affecting the teaching and learning of vocational education courses. These challenges came at a time of increasing pressure on resources and the increasing diversity in the students' mode of learning. Therefore, the introduction of e-learning by teachers in teaching of vocational education courses according to Akinola (2002) will encourage:

1. Development of Skill and Competencies: With the use of e-learning, students can develop the skills and competencies needed in their various professions.
2. Greater Collaboration: Technology tools make collaboration among academician easier. Since researches or projects involve collaborative learning, the online environment is far easier and often much comfortable to work in since learners do not have to be in face-to-face setting. This will widen the intellectual horizon of the learner with relative ease;
3. Increased Access to knowledge: With e-learning, students can share their knowledge across borders, allowing fellow students to attend courses across physical, political and academic boundaries:

4. Exposing the students to human resources in various discipline: With names and addresses known, specialist in various fields of' learning can be found or located in the internet. They may be required to send their papers online or to come physically as a resource person for lecture delivery.

4. CONCLUSION

Introducing technology into teaching and learning has been shown to make learning more students centered, encourage cooperative learning and stimulate increased teacher student interaction. So in order not to he left behind in the global world, vocational and technical teachers need to be more aware and well exposed to e-learning in order to give the students the best instruction. E-learning is a sophisticated and fast means of learning and as such learners should be exposed to the endless possibilities that the ICT holds in stock for them. It should be noted that e-learning is regarded as a phenomenon that is fact revolutionizing the world and making the world to become a global village. It is essential for the technical teachers to take the issue of e-learning in the teaching and learning of vocational and technical courses in tertiary institutions with all seriousness so as to make educational system an enviable one in Nigeria.

Gone were the days when traditional classroom was gaining grounds, teachers in this century are expected to be e-learning compliant so as to move with knowledge explosion and technologically minded classroom interaction. Hence, for a teacher to be versed while using these e-learning tools, there is need for visions, potentialities, and opportunities in application, training and time to experiment.

5. RECOMMENDATIONS

The following recommendations are made for improvement:

1. That government of Nigeria should provide computerized or digital libraries in all departments in the school for accessibility of information in the internet and for uploading and downloading of files at all time and this will encourage decentralization of students and teachers from the general school library.
2. The government of Nigeria should tackle the problem of power failure by installing Uninterrupted Power Supply (UPS) devices to ensure steady supply and use of electricity, if the hunger for skilled manpower development through vocational and technical education can be achieved: and
3. Vocational and technical education teacher should ensure that they are computer literate and always ensure to attend refresher training courses regularly to be up-to-date as well as catch up with the technological dynamism of the global world.

References

Akinola, C.I. (2002). Impact of Technology on office communication. *Journal of Nigerian Associate of Business Education Journal, 2*(3), 45-49.

Ajie, N. S. (2009). Computer Usage as Instructional Resources for Vocational Training in Nigeria. *Journal of Educational Research and Review, 6*(5), 395-402.

Asogwa, F. (2006). *Computer Networking.* New York: MC Graw-Hill International.

Bode, A. (2005) *Problems in Utilization of E-learning in Rivers State.* Port-Harcourt: Lopez Press.

David J. O. (2009). *E-learning Practices that works.* Calabar: Skyways Press.

Erah, D. F. (2006). Information and communications technology: Prospects for academic development in Nigeria. *Journal of vocational and technology education, 2*(1), 23-28.

Hart, A. S. and Christensen B. N. (2002). *The significance of e-learning in our educational system.* Accra: Providence Publishers.

Kelly, J.F (2007). *Computerized management information System*. New Delhi: Macmillan Press

Manyindo, B. A. and Luguinjo, C. M. (2005). *Enhancing Learning Opportunities in Africa.* Lusaka: Nobert Press.

Nicholas, A. M. (2003*). Administering Education in Nigeria, problems and Prospects.* Ibadan: Heinenmann Publishers.

Open Learning Centre (2007). *What is E-learning.* Retrieved on 25/2/2007 from http:www.openlearningcentre.com

Tamunodiemyi, (2006). *Information and Communication Technology and Nigeria Schools*. Port-Harcourt: Pearl Publishers.

Taylor, P.G (2008). Institutional change in Uncertain Times; Lone Ranging is not Enough. *Journal of Studies in Higher Education 2*(3), 269-280.

Wills, S. (1998). Being Flexible about Flexible Delivery. *Journal of teachers of technology, 3*(2), 12-17.