
Utilization of E-Learning for Effective Teaching of Vocational Education Courses in Nigeria

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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 in its usage to the benefit of the learners. Therefore, this paper is focused on the utilization of E-learning for effective teaching of vocational education courses in Nigeria. It covered the concept of e-learning; concept of utilization of educational resources; teachers' competency and utilization of e-learning facilities; the role of the teacher in the practical application of e-learning for effective teaching of vocational education courses; and e-learning and competency development of students. Conclusion and recommendations made include that vocational education teachers should ensure that they are computer literate and also attend refresher trainings regularly to enable them meet with the technological dynamism of the global world.

It is a fact to state that, an effective human resources development is a function of the application of methods of teaching, alternative channels of communication, educational resources and expertise of utilizing these resources by the instructors or the

lecturer. It is on the above premise that this paper is situated. To generate a desirable change in the learner, good teaching must take place and to bring about good teaching, teacher should be able to convey their message in the simplest, most convincing and practical way to the learner through the use of resources available to the education industry. These resources are properly utilized, underutilized or over utilized. These trends portend confusion for the educational system. If actually the education industry is the pivot for achieving genuine national development and the instrument par excellence for achieving same, then the available educational resources should be properly utilized to bring about better educational goals. This may point to the fact that resources in the education industry available are not properly used (Ebong 2006; Maduagwu 2004; and Maduagwu and Nworgu, 2006).

Okeke (1985) identified these resources in education as finance, personels and facilities. Thus, the facilities are instructional materials, laboratories, library etc. Okorie (2001) posited that since the classroom is not enough to impart to the students all the facts and skills they need for their intellectual development, the library service becomes a vital element in any progressive educational system.

Odetoyinbo (1982) maintained that in our schools, the library system is nothing to write home about and where they exist, they are locked and students cannot acquire library skills and now resort to the use of e-learning by the students in Nigeria in 1982, thus this trend is relatively new in educational system. E-learning is becoming increasingly prominent in teaching and learning in tertiary institutions because the trend is characterized with knowledge explosion through the use of the principles of Information and Communication Technology (ICT), thus, there is need for vocational schools to imbibe this new technology so that the students will be well prepared, since they are responsible for the provision of skilled middle-level personnel's mostly needed in industrial and services sectors.

Therefore, the provision of e-learning facilities, training and retraining of teachers employed to teach these vocational courses (Home Economics, Agricultural Sciences, Electrical Electronics etc) in schools becomes very important because all economically advanced countries place high premium on the quality of instruction given out by the teachers to students during vocational education and training process (Oguzor, 2011).

It is based on these premise that the focuses on the extent at which teachers of vocational subjects applies e-learning for effective teaching of vocational courses in Nigeria. On this premise, the following sub-headings were discussed; Concept of E-Learning, Concept of Utilization of educational resources, Teachers' competency and utilization of e-learning facilities, E-learning and competency development of students, conclusion and Recommendations.

Concept of E-Learning

Students' learning in tertiary institutions all over the world has undergone tremendous transformations, especially since the advent of Information and Communication Technology (ICT). There is a shift from the traditional approach of teacher directed/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 lecturers 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. The Commission of Technology and Adult (2001) 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 through personal computers and includes 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 enable the use of internet e-mail, discussion forms, collaborative software, classroom management software, team learning systems, 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 based on electronic formats (Bodys, 2005). It can benefit any students or teacher irrespective of the background. E-learning is a major issue in pedagogy of individualized instruction, self pace study etc, which is; adapting the teaching to the needs of various learners. E-learning provides this by making available the required learning materials for teaching of these vocational subjects which eventually leads to increased graduation rates and lower failure rates of students. Finally, it promotes equity by providing students with access to courses which may not ordinarily be available and providing teachers with materials for teaching (Asogwa, 2006).

Concept of Utilization of Educational Resources

Utilization of educational resources (e-learning) refers to and connotes the equitable use of resources available to the education industry. As Ajie (1999), pointed out, 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 adjust their educational content to the changing skill requirements of the nation. In other words, educational institutions are expected to provide knowledge and training that satisfy the human resource demands of the nation and nation's economy (Manyindo and Luguijo 1995). This is especially true of training in strategic occupation that is increasing rapidly with the advent of new technologies.

Teachers' Competency and Utilization of E-Learning Facilities

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 learners. 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 units 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. Before a teacher can be expected to use computer and Information and Communication Technology to impart knowledge or learn the skills for producing software's, it is necessary that such a teacher knows what to teach and be competent in the usage of available educational resources in teaching and learning process. Therefore, training of teachers in the use of ICT facilities becomes an urgent and essential matter. Since most software's has to be developed by the teacher themselves, intensive training should be designed to update the teachers regularly, in view of the dynamism in area of technological growth.

The Role of the Teacher in the Practical Application of E-Learning for Effective teaching of Vocational Education Courses

Teaching is a very crucial job, so teachers need to understand a subject enough to convey its essence to students. While traditionally this has involved lecturing on the part of the teacher, new instructional strategies has put the teacher more of course designer, facilitator, and coach and the student more active learner. The goal vocational education is to establish a sound knowledge base and skill set on which students will be

able to build as they are exposed to different life experiences through the new instructional strategies (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, 1998).

Will (1998) emphasized also that the quality of teachers is the single most important factor affecting students achievement, and that countries which score highly on international test have multiple polices in place to ensure that the teachers they employ are as effective as possible in the use e-learning materials and must be highly qualified. Therefore, new teaching methodologies increased the importance of students self learning with the teacher adequately performing role of:-

1. Content facilitator, concerned directly with facilitating the learners' growing understanding of the vocational education course content,
2. Technologist, concerned with making or helping learners makes 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. Managers, concerned with issues of learner practicing with the 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.

Finally, 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. Also, the use of virtual classroom drill and simulators can be applied in teaching of vocational education courses in Nigeria.

E-Learning and Competency Development of Students

The slogan “if I hear, I forget, if I see, I remembers; 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 including vocational educational programmes. Since the society is yearning for students who can manipulate resources to yield a corresponding change in educational system in Nigeria's economy through vocational education programme. Consequently, Tom (2007) posited that in view of the yearning, e-learning should be seen as offering solutions to several of the challenges currently affecting the teaching of vocational educational 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 will encourage:

1. **Development of Sills and Competencies:** With the use of e-learning, student can develop the skills and competencies needed in their various professions.
2. **Greater Collaboration:** Technology tools make collaboration among academicians easier. Since institutions are involved in 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:** With e-learning, students can share their knowledge across borders by allowing fellow students to attend courses across physical, political and academic boundaries; and
4. **Exposing the Students to Human Resources in Various Disciplines:** With names and address known, specialists in various fields of learning can be found or located through the internet. They may be required to send their papers online or to come physically as resource persons for lecture delivery.

Conclusion

Introducing technology into teaching and learning makes learning more student-centered. It encourages cooperative learning and stimulates increased teacher-student interaction. So in order not to be left behind in the global world, vocational teachers need to be more aware and 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 newer technology holds in store for them.

Summary

It should be noted that e-learning is regarded as a phenomenon that is fast revolutionizing the world and making the world to become a global village. It is essential for the teachers to take the issue of e-learning in the teaching of vocational education courses with all seriousness so as to make the educational system an enviable one. Gone were the days when the traditional classroom was gaining ground, teachers in this century are expected to be e-learning users so as to move with knowledge globalization and bring about technologically enhanced classroom interaction. Hence, for a teacher to be versed while using these e-learning tools, there is need for vision, opportunities in application, training and time to experiment.

Recommendations

Based on the facts highlighted above, the following recommendations were made:-

1. That government of Nigeria should provide computerized or digital libraries in all the school for accessibility of information in the internet and for uploading and downloading content of the files at all time and this will encourage decentralization of students and teacher 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 use of electricity, if the hunger for skilled manpower development through vocational and technical education can be achieved; and
3. Vocational education teachers should ensure that they are computer literate and attend refresher training regularly to enable them keep pace with the technological dynamism of global world.

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