

USING EDUCATIONAL TECHNOLOGY MEDIA FOR OPTIMIZING OPEN AND DISTANCE LEARNING FOR SUSTAINABLE DEVELOPMENT

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Abstract

This paper examines the role Educational Technology Plays in open and distance learning in the development of individuals which eventually leads to national development. The innovations and interest in educational technology today has made the world a global village. As such, individuals who are not opportune to continue their educational pursuit through the conventional classroom setting now take advantage of learning even outside the classroom. The advantages of distance learning through ICTs are also explored. The paper concludes that open distance learning help address issues of educational inequality, educational exclusion and open up democratic and accessible educational opportunities. It recommends that government at all levels should support and equip its educational institutions with ICT facilities to open up more opportunities to individuals who are unable to attend conventional schools so that they can contribute their quarter to national development.

Keywords: Education Technology Media, Optimizing, Open and Distance Learning, Sustainable Development

INTRODUCTION

New communication technologies, particularly the internet, appear to offer existing possibilities for overcoming geographic access and cost barrier to learning. There is a radical change in the way people learn in the twenty first century. The Information and Communications Technology (ICT) revolution has transformed the ways in which ideas and information are recorded and communicated. The space of change in education is increasingly fast and skills must be constantly adjusted to meet the changing needs of the work place. New information and communication technology and new ways of learning have already been integrated into education and training programmes. Online distance learning is

new and rapidly growing mode of delivering instruction. As some Colleges and Universities try to reach more students, they offer distance learning courses to serve students, who otherwise may not be able to earn a College Degree. In the early distance learning courses, students watched lectures on video tapes, read textbooks, worked exercises and took paper and pencil test which were mailed to the instructor for grading (Armington, 2003).

Mumeu & Ushel (2011) emphasized that there is need to have clear idea of features to use and reasons for using them by teachers and students; encourage students' active participation in discussion. Computer assisted instruction (CAI) can be used to strengthen the online discussion through role play, simulation when encourage to use who resources. Delivery of instruction in an online computer assisted course is best described by the term computer mediated instruction, which is a student centre model that delivers individualized instruction. Since the 1990s, open and distance learning has gained increasing legitimacy, as evident in the policy statements by main international agencies (i.e UNESCO, European Commission, World Bank) and various national policies (Perraton, 2000). Illiteracy rates in developing countries may have fallen between the 1960s and 1980s, yet there are still more than 900 million illiterate adults in the world (UNESCO, 1993). Perraton (2000) explains that global economic conditions were not conducive to educational expansion in developing exporting countries. The shortage of resources caused, in part by the organization of the petroleum exporting countries (OPEC) oil crises, global food shortages in the 1970s, and the falling prices of primary products in 1980s, resulted in increased debt, particularly in sub-Saharan African and Latin American countries. As a result of these changes, developed nations prospered and enjoyed the political and economic opportunities that widened access to resources for the less well-off. The situation in developing countries, however, was quite different. The reduction in resources and funding in developing countries meant that less was spent on training teachers and on educational resources for the poor (Perraton, 2000). Lack of resources, including limited number of textbooks and desks or writing spaces, libraries without journals and laboratories without equipment remain a reality today in many developing nation of the world (Perraton, 2000).

Statement of the Problem

Online learning is a form of live synchronous platform where it requires both parties to have good and stable internet connection (Llego, 2010). Compared to other learning modalities such as face-to-face and modular, online learning is considered to be more interactive and students are seen responding. Online learning is one way to continue education in times of

uncertainties like the covid-19 pandemic. Though it is a good platform, certain challenges arise that affect not only students but also teachers. Shore (2020) mentioned in his article that an online class eliminates the human connection and therefore student motivation, interaction, and educator's ability to adapt course materials and presentations is somehow lost. On the other hand, Friedman (2020) pointed out in his article that challenges in online learning includes technical issues, distraction and time management, staying motivated, understanding course expectations, lack of in-person interaction, adapting to unfamiliar technology, and uncertainty about the future. Both Shore and Friedman clearly stated that there are different challenges commonly encountered by students in their online learning.

Open distance learning (ODL) has become an essential strategy for widening access to education, particularly in developing countries where infrastructural, financial, and geographical barriers often limit opportunities for traditional face-to-face learning. However, despite its potential, ODL face several persistent challenges that hinder its effectiveness and contribution to sustainable development goals (SDGs). There is inadequate integration of educational technology media into ODL programs, many institutions still rely on outdated modes of content delivery such as printed modules and minimal digital interaction, leading to reduced learner engagement, poor interactivity and lower completion, access to reliable internet connectivity, affordable digital devices and electricity remains a challenge for many learners.

Objectives of the study

The objectives of this study is to:

1. Identify the challenges faced by students in online distance learning
2. Find how educational technology can be leveraged in open and distant learning (ODL) and
3. Find out the role of open and distant learning in sustainable development

Literature Review

Online Distance Learning

The advent of the Internet and its use for educational purposes is considered as the third phase of distance learning history (Kaplan & Haenlein, 2016). As communication and network technologies advance, more innovative instructional delivery and learning modalities were developed in order to provide a more meaningful learning experience to learners (Lim & Morris, 2009).

Distance learning, also called distance education, e-learning, and online learning, is a form of education in which the main elements include physical separation of teachers and students during instruction and the use of various technologies to facilitate student-teacher and student- student communication (Simonson, 2020). This is in line with the definition of Means which regards online learning as an educational instruction that occurs using web-based technology, which may be engaged in completely asynchronously or with components of synchronous learning, and with no located face-to-face class time (Means, et. al., 2009). Distance education technology allows students to take advantage of the convenience and flexibility of taking classes at the times and locations they prefer (Tuckman, 2007).Based on these definitions, teachers and students are separated in terms of distance or space, but not necessarily by time.

Online learning is thought to have several advantages over traditional face-to-face and blended education, including flexibility and accessibility to study anywhere, at any time, without requiring one's physical presence at a campus location (Means, Toyama, Murphy, Bakia, & Jones, 2009; Van Doorn & Van Doorn, 2014). In addition, learning becomes more learner- centered since it promotes greater participation (Markova,et. al., 2017).

Role of Technology in Open and Distance Learning

Through explanation of concept is provided by the interactive multimedia software which usually includes activities requiring students interactive imbedded in the instruction immediate feedback with detailed solution opportunities to develop skills. Online assessment and course management features to track students' progress (Trenholm, 2006). Online course provide flexibility for students with families and job, giving them the choice to work anytime of the day from any computer with the internet access (Brothan and Wambach, 2000). Students can control the pace of their learning, although there is a schedule for completion of lessons (Kinney and Robertson, 2003).

ICT Supported Distance Learning.

Education in the information society can be said to be moving away from a system centered solely on teachers to a much stronger focus on learners. Moor (2002). Defined ICT supported distance learning as learning in which information and communications technology (ICT) is used to promote connections between one learner and other learners, between learners and tutors and between a learning community and its learning resources.

New information technology is transforming distance. In the past, distance learning was conducted by post, with students receiving learning materials and assignments completing them and posting them back to their tutors, who would mark them and return again by post. Television has also played a role delivering lectures and learning materials, while students listened and watched. Now the internet has created the possibility of distance interaction and this has changed the way that learning materials are being delivered. This can be simply through the use of email for sending and receiving the materials, through interactive courses with sophisticated methods of creating and delivering learning materials, assessing students' knowledge and communication with and between students. Materials are now available for all sort of topics, through colleges and universities and some commercial training organizations.

Ogbomo (2004) stated that internet is a network of computers that communicate with each other often over telephone lines. The potentials of the internet lie in the provision of global platform for information sharing among organizations and individuals. Information sharing creates awareness ensures continuous use of product, and services, provides feedback and support for organization.

Ways ICT Resources can be used in Open and Distance Learning for Sustainable Development.

The Internet: is a network of computers and telecommunication gadgets with national and international connectivity and application. The internet has metamorphosed into a world wide web (www). This consists of a large number of networked computers (call host). Which ran either a server (a programme which distributes documents) or a client (a programme which retrieve documents and facilitates their reading or both (Hughes, 1994)

E-learning: is learning facilitated and supported through the use of information and communication technology. It is learning activities based on electronic formats (Body's 2005). It is education offered using electronic delivery methods such as CD-ROMs, video conferencing, websites and e-mail. Virtual learning environments (VLE) are relatively new, but already they are having a significant impact on pedagogical practices. VLEs are increasingly important part of strategies for delivering online and flexible learning. Many are already in place in colleges and universities, and they are spreading to primary and secondary school levels.

World Wide Web (www): is also an internet-based resource. It is a utility based on hypertext (hypertext simply documents through keywords in document or pages). A visit to a website

helps individuals or organization to locate products, information, pursues political or social agenda and transacts business (Chiwetalu, 2003). From the above, being on the web would put any nation or organization on the right course of speedy and sustainable development in line with the emerging changes in technology, economic and political paradigms. Many organizations ministries and parastatals in Nigeria have their own websites through which they make relevant information available to members of the public.

Electronic Mail (e-mail): This is the most widely used resource of the internet. It provide for sending and receiving mails (messages) through electronic devices. Intra and inter organizational communication has been made faster and cheaper. E-mail has become the life-wire for many business and organizational communication. The e-mail and videos conferencing, to a large extent, reduce the physical distance between teacher and learner, or between learners and peers. The use of video conferencing gives students the opportunity to interface with one another whenever they may be. Topics and problems related to their studies and valuable ideas and knowledge exchanged for greater academic productivity. Ugwuju (2007) assert that video conferencing provides opportunities for students from different part of the globe to come together to discuss topics of common interest to increase learning. Virtual teaching is an instructional process or situation in which the teachers and the learners use interactive video conferencing to facilitate learning. It is similar to face to face learning situation involving a teacher and his students in the classroom.

Advantages of Open and Distance Learning

- i. **Cost Efficiency Learning:** Open and Distance Learning is very cost efficient approach to industrial training for the following reasons (Tailor, 1988).
 - . First and foremost, the method does not require use of company personnel for lecturing and tutoring. Materials and resources to impart necessary skills are provided by the open learning course.
 - . Secondly, open learning courses do not involve the expenses of accommodation and travel as required by residential courses
 - . Thirdly, the absence of rigid timetable and the nature of course materials make open learning very time-efficient workers who have any spare time can use such on the next part of their course, and they do not need time to travel to and fro to school. Most of the studying can be done either at the students have or work place at his or her pace and convenience even through to certain deadlines.
- ii. **It Promotes Active Engagement.** The possibility of interaction can be exploited by the teacher through well-designed task or through careful on-line tutoring. In

- particular, it can be used to encourage more active forms of engagement in the learning process and with the materials to be learnt.
- iii. **Interactive, but Flexible.** E-learning supports relatively high degrees of interaction between the learner and other learners, between the learner and tutor, and with on-line learning resources in conventional forms of higher education, interactive with peers and tutors usually requires co-presence. Distance learning supports interactive and flexibility over the time and place of learning.
 - iv. **Reflective, Aiding Deeper Processing:** Biose (1998) identifies as obsolete training facilities and lack of expendable materials is solved by modern facilities provided by the learner's employer. In asynchronous learning, the learner has time to consider what others have been saying, to reflect, to consult books and other sources, in preparing their own contributions. This contrasts with real-time interactions, such as in face to face seminars where there is much less opportunity to consider and prepare one's argument this opportunity for reflection can allow deeper processing of information, though this is not a guaranteed consequence.
 - v. **New Opportunities for Group Working.** Opportunities for group working are seriously constrained in conventional teaching these constraints are at the weakest when learners are full-time and living and working on the same campus. But for many learners especially those who are part-time or who have to travel into the university site to engage in any group activity. There can be real difficulties in finding time and space for group work. Distance learning open up new opportunities for group work by loosening some of these time and space constraints.
 - vi. **It Provides the Opportunity for Dropped out.** School students or those who were not successful in school to redeem their situation acquire more knowledge.
 - vii. **Social interaction.** It is easy to underrate the importance for learners of their interaction with peers some critics write off the social use of e-mail (etc.). As a distraction from real work. This is not how learners themselves see it, and indeed we should have severe doubt about both the possibility and the wisdom of driven hard divisions between the academic and the social. There is much to be gained from building on the social aspect of harmony.
 - viii. **Ease of Access to Global Resources.** Learners will increasingly feel that their use of distance learning merges seamlessly with their use of web. From the teacher's point of view, it becomes very easy, for example to point to valuable resources on the web when making points in on-line discussion.

Challenges in Online Distance Learning

Despite the convenience of online distance learning, challenges also are encountered by students and teachers. Distance education provides students much more freedom in how and when they interact; however, Sun & Rueda (2012) argued that their ability to regulate learning becomes critical. Amadora (2020) also pointed out that with the lack of interaction during online classes, students tend to get distracted easily on smartphones, pets, deliveries and many others rather than the ongoing online class. Because face-to-face interaction is absent, it is theorized that students will experience the lack of interest in the online class.

On the other hand, Tuckman (2007) found out that students may lack opportunities to collaborate and receive feedback and social support while Rost (2019) found that online environments can generate a feeling of anonymity to students which makes it easier for students to withdraw or participate minimally or completely disappear from the course. These theories showed that students in online learning suffers from anxieties that lead to lack of participation.

In contrast to Tuckman, (Palloff & Pratt, 2013). Pointed that online learning puts pressure on students to work more in groups and requires more participation and engagement.

The generation of some younger students are considered to be digital natives. The Internet became a part of their lives since they became aware of their surroundings. While most are learning new things online and navigating the internet, Rost (2019) believed that issues of digital literacy will prevent some students from successfully taking full advantage of online learning resources. Jacob (2016) added that it was difficult for preschool, kindergarten and even early primary grade students to work with educational software because it required the use of a mouse or keyboard. Students' digital literacy is an important factor in online distance learning because without it, the challenge in learning will be much greater.

Wireless connectivity is another challenge as the nation has seen on television or read news reports of teachers and students going up on mountain sides or on hilltops to access wireless signals to use the internet (Averia, 2020). Also, Adonis (2020) cited that teachers suspected that the decrease in class size was related to poor internet connection as millions of students and parents struggled to familiarize themselves with the new learning platforms prompted by the new coronavirus pandemic. The Philippines' slow internet connection, posed a great challenge among students, especially those who are from remote places.

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Conclusion

The world is global a village. The present age of technological advancement has brought changes into virtually all human endeavors including the teaching and learning processes. Open and distance learning is a cost and time effective method of up-dating employees with recent development in technology, manufacturing techniques and management. Open learning gives unfettered access to learning and it is quite flexible. It can enhance the training delivery process and so help improve the dwindling standards in education.

Recommendation

The following recommendations are being made:

- Government should support and equip our educational institution with information and communication technology facilities to open up more opportunities to individuals who are unable to attend conventional schools in their early life.
- Individual who could not go through the normal learning process should take full advantage of the opportunity to acquire knowledge through open and distance learning so that they can contribute immensely to the growth and development of the country at large.
- Educational institution should as a matter of interest and sustenance in her long vocation programme engage her students into the open and distance learning since her students struggle with regular students for lecture halls and other teaching facilities.



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