Editorial board

Editorial

The Open University of Tanzania is celebrating its 20th anniversary this year. Being the first public Open University in Eastern Africa it has unveiled the best educational preference to many people in the region. The best learning process transcends the efficiency and ethics of a workforce. Through research and hard work, the university has been stirring social transformation evidently in the elevation of dependable approach in solving social problems consistently with the needs of the 21st century. Although the OUT doesn't brag for its learning output, its mission and vision attract many to share the reputation of belonging to such learning institution. The importance of this occasion inspires all university stakeholders to re-evaluate the contribution of the open and distance learning to the nation. The growth in delivering and expanding access to many students in Eastern Africa has been marked with increased knowledgeable workforce in the society.

Adult learning contributes in attainment of achievers of social reform and development. For 20 years, East African nations have absorbed graduates capable of transforming society dreams to reality. Learners' response in e-learning has proved that acquisition of knowledge and skills can be done in a non-tradition classroom setting. Deviating from conventional mode of delivery, learning becomes the source of interest and excitement to both students and scholars. The uniqueness of the Open University of Tanzania is realized in its attainable goals, and taking risks while embracing internal and external challenges. The opportunity to extend access and knowledge coincides with emphasis on andragogical learning methodologies. Mobilization of educational resources and guidance in the acquisition of new knowledge empower learners' confidence and sense of belonging to the institution. Inclusion of learners' background and experience has moderated the pace of learning whereby students are in control of what and when to take courses. An online learning method has encouraged students' inclination and motivation to engage in the 21st century technology. The OUT has adhered to students' quest for new knowledge through face to face sessions, virtual and physical libraries.

Open and Distance Learning (ODL) has liberated many individuals from stagnation to active participant through e-learning. Learners appreciate their recognition and inclusion of their experience in the learning process. ODL acts as the remedy of many shortfalls of traditional system of education. ODL is also mentioned by Mushi in her article to create free critical and relatively independent thinkers capable of interrogating, interpreting and innovating. East African governments have welcomed the OUT move to create challengers of actions, goals, social structures, traditions and thinking. Higher quality of learning and achievable goals override society status quo. Although liberation is refined by social transformation, the OUT is still challenging its staff and students to be more conversant with emerging technologies.

Human capital has been a pillar of OUT for realization of its goals. Outsourcing innovators and those proven to excel the norm, has made the institution firm to the

present. Mbwette and Ngirwa emphasized the importance of human resource managers to increase diversity of employees. Inclusion of individual's contributions enables the institution to achieve multiple goals. Differences offer higher chance of growth but is also mentioned by Mbwette and Ngirwa to elevate chances of creating specific challenges. The institution is current in its delivering superior knowledge through qualified individuals and its initiative in sponsoring its workforce in acquisition of new knowledge and skills. The stability of the institution to its core values is affirmed in its unitary vision of all stakeholders.

Dr. John Soka
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Challenges of E-learning in Open and Distance Learning (ODL): The Case of the Open University of Tanzania

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Abstract: *E- Learning is relatively a new field in education in Tanzania as well as for the majority of countries in Sub-Saharan Africa. The potentials of the use of e-learning can't be underestimated. This paper investigates the challenges of e- learning integration in education at The Open University of Tanzania. The study identified the challenges to ICT integration at OUT as: inadequacy of infrastructural facilities for both academic staff and students'; ICT know how and mind set of staff and students. The study used questionnaire as the main data collection technique whereas focus group discussion supplements the data obtained from the questionnaires. The study concludes that despite some progress made in the area; much is still desired for the effective implementation of e-learning at The Open University of Tanzania. The study recommends that efforts have to be made by the institution in capacity building for lecturers, support staff such as computer technicians and students along with improvement of infrastructure to support e-learning.*

Introduction

Our current society is transforming into an informational society in which the production and processing of information is a central activity. Communication possibilities have widened and the world has become a global village. To prepare students for future role in this information society, other skills and knowledge should be emphasized in education than was the case in industrial society (Thijs, Almerkinder & Blijleven, 2001). Today's networked world demands a workforce that understands how to use technology as a tool to increase productivity and creativity. Furthermore, employers require workers to have skills necessary to collaborate, work in teams and share information across global networks; that are to analyse issues from multidisciplinary perspective (Hawkins, 2002). Integrating ICTs in the curriculum such as the use of e-learning in Open and Distance Learning (ODL) has the potential of providing opportunity to students to learn these skills.

Being an ODL institution, the Open University of Tanzania (OUT) realizes the potentials of ICT in supporting teaching learning by distance. One of the initiatives to realize the use of ICT potentials was the establishment of Institute of Educational Technology (IET) at OUT in 1998. The IET deals with all ICT related activities in education at the OUT. These activities encompass training and consultancy, network services, software development, web design and hosting and PC maintenance and repair. Also, there are ICT resources made available to students and staff by IET. These are Staff mail, student mail, OUT intranet, Exam registration, Student Academic Record Information System (SARIS), E-learning system, library services and MIT courseware.

The aim of the study was to examine the challenges of e-learning at OUT. OUT was taken as a case study. Case studies are not meant for generalizations (Cohen, Manion & Morrison, 2000), nevertheless, they serve the purpose of highlighting what goes on in other institutions with similar characteristics.

The E- learning Concept
There are many definitions of e-learning as put forward by different scholars. Stockley**Error! Bookmark not defined.** (2003) defines e-learning as "the delivery of a learning, training or education program by electronic means" (para.1). E-learning involves the use of a computer or electronic device (e.g., a mobile phone) in some way to provide training, educational or learning material. The fore mentioned author emphasizes that e-learning can involve a greater variety of equipment than online training or education, for as the name implies, "online" involves using the Internet or an Intranet. CD-ROM and DVD can be used to provide learning materials. Naidu (2006) agrees with Stockley's (2003) definition and further adds that the term e-learning comprises a lot more than online learning, virtual learning, distributed learning, networked or web-based learning. Stockley further contends that the letter "e" in e-learning stands for the word "electronic", e-learning would therefore incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices. These two authors observe that e-learning, web-based and virtual learning are not synonymous. For the sake of this study e-learning would simply refer to learning that is facilitated by electronic means.

Potentials of e-Learning Integration in the Curriculum in the ODL Institutions
Despite some challenges of integrating e-learning in ODL institutions like OUT; e-learning is inevitable. Some of the potentials of e-learning include the following:
- Students can access course outlines, assignments and even tests regardless of time and location.
- Students become more responsible for their own learning.
- Students can study at their own pace.
- Improved student support services.
- The gap that usually exists for distant learners (student-instructor gap) is narrowed.
- Enhances interaction among students and between students and their instructors.
- Improvement of feedback to students.
- Course delivery is improved and enhanced.
- Learning becomes fun.

OUT Initiatives to Facilitate ICT (including e- Learning) Integration in the Curriculum
OUT through IET has organized various staff and students training in computer general knowledge.

The courses were organized in small groups in turns. Also, there were various workshops organized by IET on issues of e-learning. One such workshop was organized by OUT in collaboration with Commonwealth of Learning (COL) and National Open University of Nigeria (NOUN) specifically the Regional Training and Research institute of Open Distance Learning (RETRIDAL) and OUT. The workshop was about e-content development for e-learning project implementation for the Open University of Tanzania.

OUT operates through its regional centres. There are 30 of these more than 16 regional centres have computer laboratories. In these regional centres computer short courses are offered. For the courses that are offered to the general public, students and staff pay a half of the price. For courses that are specific for supporting students to study and access information through ODL, students pay a quarter of the price. However, these same courses are offered free of charge during face to face sessions. Still, the OUT has the challenge of reaching students whose centres have no computer laboratories.

In addition, OUT collaborates with African Virtual University (AVU) to facilitate e-learning at OUT. Through AVU students and staff can access various books on-line. The premise for AVU has played a good role as a centre where various staff computer training have taken place. Another initiative by the OUT involves establishing a link with Massachusetts Institute of Technology (MIT) Courseware whereby staff and students can access materials free of charge. This is an Open Educational Resource (OER) where people can access courses and various learning materials on-line.

Related Literature
A review of related literature revealed that ODL institutions face some challenges in integrating e-learning in their curricula. Despite the fact that some institutions started offering courses by e-learning a bit longer than others and some institutions are in their early stages of integration; there are some common challenges. Literature from various geographical locations i.e. Africa, India, and Malaysia (Tusubira & Mulira, 2004; EDUCAUSE, 2003; Mnyanyi & Mbwette, 2009) shows that challenges of e-learning integration in curriculum include the following:
- Lack of awareness of effectiveness of e-learning among population.
- Inadequate infrastructure.
- Bandwidth and connectivity issues.
- Computer literacy and digital divide.
- Lack of e-content.
- Difficulty in engaging learners on-line.
- Paradigm shift problems.
- Rapid growth of knowledge in ICT area.

Kamba (2009) observes that while some of the universities have their web-sites and e-learning information they are never used for course delivery. However, he acknowledges that different universities in Nigeria are in varying stages of e-learning applications.

Methodology
The study used questionnaires as the main data collection technique for academic staff and undergraduate students. Open ended interview was used for data collection from ICT technical staff. Open ended questions and discussions were used to supplement data obtained from OUT staff and students. The sample included 20 undergraduate students, 10 academic staff, and 5 ICT technical staff. Other sources of data included the OUT website and documentary data from various sources. Undergraduate students participated in the study because are the majority of the OUT students.

Research Question
The study was guided by one main research question: What are the challenges of integration of e-learning at OUT?

Findings and Discussion
Data analysis of the questionnaires, interviews and discussions with the respondents revealed that OUT is in its early stages of e-learning integration in various courses. The programmes that are offered through e-learning as a mode of delivery are Bachelor of Science (BSc. ICT), Bachelor of Arts (Journalism) and Master of Law LLM (ICT). Another programme that uses a special kind of e-learning (m-learning) is the Diploma in Poultry. With exceptions of the programmes that are offered using e-learning most staff across the faculties with the assistance of computer technicians are in the process of uploading the materials of the existing courses online. Courses that are under clusterization process do not fall under this exercise. However, not all members of academic staff have been trained to prepare and make their courses available on line. This is a challenge to be addressed as for this exercise to be effective. It seems necessary that; members of academic staff should be conversant with e-content preparation. There is also a need to let the members of academic staff appreciate the potentials of using e-learning (for them to consider taking it aboard). Other online activities that are used by all OUT students are SARIS and on-line examination registration. These two services are very important achievements for the OUT. It possible for one to access students' examination results and be able to know those registered for each examination; thus, minimizing time and cost of processing examinations. It was also of interest to examine whether there were e-books that could be accessed from OUT library. The findings revealed that the library has no such service, instead it has the On-line Public Access catalogue (OPAC). However, some e-books could be accessed through AVU and MIT of which few staff and students are aware of.

Two courses that involve e-learning were examined. These were BSc. (ICT) and Diploma in Poultry. Both courses belong to Faculty of Science, Technology and Environmental Studies (FSTES).

Bachelor of Science (ICT)

B.Sc (ICT) degree programme is a three years programme offered through two main modes of delivery: e-learning and intensive face-face sessions. The course is meant to produce ICT specialists who would further contribute to ICT integration in various walks of life in Tanzania as well as worldwide. All the courses are available online through Module platform. Data collected revealed that in each year there is a four weeks intensive face to face session. For the first two years each student does an industrial/practical training to have hands-on experience with the world of work. In the final year each student has a final year project.

Diploma in Poultry

This is a two year programme. The course delivery is through m-learning which is a special type of e-learning. CD-ROMS are also used. It was observed that one of the students interviewed was so excited with the programme especially because of the availability of the materials despite the challenge of access to computer. The major challenge cited was that his mobile phone for the moment could not connect to the Internet. Hence, he could not access the materials any time he wanted. He could only access the learning material when he had access to computer connected to the internet. However, he observed that sometimes he printed some of the materials for ease of access.

Challenges of e-Learning Integration at OUT

Findings from the data collected revealed that the main challenges for e-learning integration in the curriculum include:

- Computer access and connectivity for staff as well as students.
- Low students and staff computer knowledge.
- High costs for accessing the internet and the computer.
- Low knowledge in e-content development and delivery.
- Dominance of traditional modes of delivery and the belief that they are better.
- Lack of feedback from end-users on the main stream courses that are uploaded.
- In-affordability of computers, modems and mobile phones with connectivity.
- Low Internet access sometimes blocked and would not open up hence poor accessibility.
- Digital divide: students from the rural areas are disadvantaged.
- Unreliability of electricity and Internet connectivity. These pose a serious challenge to students as well as staff.
- Technophobia for some students as well as the staff.
- Inadequate infrastructure.
- Negligence and reluctance of some students and staff in dealing with technology know how matters (change is never embraced immediately by all people)
- Fast turnover of the technology provides a challenge to both literates and illiterates as far as the ICT is concerned.

- Lack of awareness of e-learning activities. This can very well be demonstrated by the two programmes at the OUT: AVU and MIT.

As can be observed from the findings there are too many challenges and obstacles that face OUT in integrating e-Learning into the curriculum. Despite challenges the OUT has struggled at least to start with few courses. This phenomenon is in line with Gauci (2001) and Nwuke (2001) in Mnyanyi and Mbwette (2009) who observe that:

> Higher Education Institutions (HEIs) in Africa should be in the forefront of ensuring Africa's participation in the ICT revolution, but they are severely under-resourced in comparison to their counterparts in the developed world. Furthermore, the information infrastructure of African Higher Education is poorly developed and unevenly distributed. Despite these difficulties, a number of Higher Education Institutions in Africa have made significant progress in building an ICT infrastructure, and developing computer science and other ICT disciplines.

Looking at the challenges that are obtained from the study, it is evident that like other places in the world, OUT faces those challenges in e-learning integration plus other more challenges. For example for e-learning integration in many course programmes much needs to be done.

Some of the challenges addressed are presented below as they were reported.

Computer Access and Internet Connectivity
As the definition of e-learning is concerned, the use of electronic devices in integration of e-learning is not an option. Henceforth, it was important to investigate issues of access to computers and connectivity by the staff and students. The findings given in Table 1 shows that OUT staff has access to computer in their offices in the following proportions:

Table 1
Computer /staff ratio and their percentages

Computer / Staff Ratio	n	%
1:1	2	20
1:2	3	30
1: more than2	5	50

However, some of the staff mentioned that some computers were old and outdated.
Out of the 10 respondents 60% had computers at home while 40% had no computers at home. The fact that 50% of the respondents share one computer among 3 people and above shows that at some time some members of staff had no access to computer (Table 1). Again the 40% of staff had no computers at home implies that these staff

members could only access computers when they are in the office and hence they may experience some hardships in case they are not at office.

On the other hand, students' access to computer shows that majority of students had limited access to computers while few of them have multiple access as can be seen in Table 2.

Table 2
Places Where Students Access Computers

Place	n	%
At home	4	20
At internet café	20	100
At work place	4	20
At home + work place	4	20
At Regional centre	2	10
At Library	2	10

As Table 2 indicates, the internet cafe is the main place where students access computers. This indicates cost implications to students. It also implies that funds can be a hindrance to students' access to computers. Only 20% have access to computers at home, at work place and 20% at both places. These findings demonstrate that most students have very limited access to computers. From these findings one can stipulate that the situation provides limitations to effective integration of e-learning at OUT. It is important to note that the sample of the study was taken at Dar es Salaam. One can pose a question that if this is the situation in Dar es Salaam what about in the regions and the rural areas? As regards Internet connectivity, majority of academic staff members 6 (60%) have access to Internet at work place only, while 4 (40%) have modems that allow them to access the internet wherever they are.

Students and Staff Computer Knowledge
For the e-learning effective implementation at any institution to be realized, the computer knowledge of staff and students is crucial. It was therefore important to examine this variable in both students and staff. The findings are presented in Figure1

Figure 1
Staff and Student Computer Knowledge
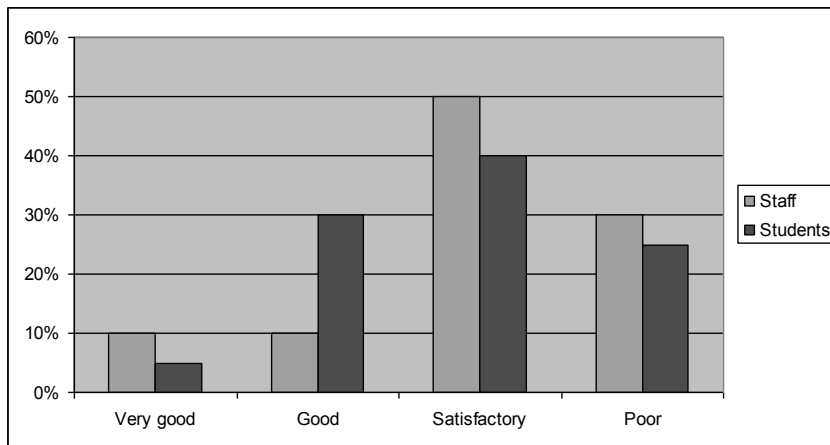
According to Figure 1, it is evident that staffs as well as students are of two types; those who are good at computer knowledge and those who are poor; with varying degrees. For implementation of e-Learning both staff and students have to be computer literate. Hence: the need for capacity building for both students and members of academic staff.

Low computer knowledge seems to be a problem despite the fact that the University offers some computer short courses. Discussions with some students and staff revealed that there is some reluctance in taking computer courses due to time constraints, cost implications and sometimes just technophobia. Despite the fact that the university encourages the use of technology by the use of SARIS and On-line exam registration, it has been noted that some students are helped by their fellow students to do those activities or by internet café attendants, thus, depriving themselves the opportunity to learn.

It was found that computer specialists had education range from diploma to masters and PhD. However, given the growth rate of knowledge in the field it is evident that they too need training from time to time to keep themselves abreast with current developments in the field of ICT particularly in Learning Management Systems (LMS).

Awareness of e-Learning by Academic staff and Students
The study also examined the awareness of lecturers and students about e-learning including the presence of AVU and MIT courseware. The findings indicate that all academic staff members are aware of e-learning. They also acknowledge that e-learning is important for ODL institutions like ours. However, very few (20%) are aware of AVU and MIT which have e-learning related activities.

Eighty percent of academic staff examined reported to have attended computer and e-learning training. They maintained that these training served, as a revelation for effective implementation of e-learning but more in-depth training is required. Fewer staff reported to have attended workshop for e-content development and uploading of courses in the module platform. Discussion with those who attended the workshop revealed that with exception of computer specialists others did not practice it much after the workshop for various reasons as following: for academic staff to upload materials s/he needs to be with computer technician. This implies that both have to be available the same time. Given the activities and tight schedules at the OUT that has some practical difficulties. In addition, electricity and internet problems make the situation more difficult.

On the other hand, students' awareness was low. The majority of students under study (80%) were not aware of e-learning. This suggests that those who learn by e-learning are the ones who are aware of it. For this reason majority of respondents were not from those who use e-learning for their courses. This can partly be explained by the fact that OUT is mainly using print for its course delivery.

It is worth noting that 20% of the academic staff who responded were doubtful if at all e-learning can be done successfully in the OUT case given the challenges that it faces. The rest of staff members had opinion that it can be done though it seems that much is still needed.

Conclusion and Recommendation
The study examined the challenges of e-learning in ODL with OUT taken as a case study. The findings reveal that the courses that integrate e-learning in their curriculum are BSc (ICT), BA (Journalism) and Diploma in Poultry which uses m-learning and CD-ROMs. The challenges that face e-learning at OUT can be summarised as: inadequacy of infrastructural facilities (physical buildings, limited computers, low bandwidth and poor connectivity and unreliability of electricity for both academic staff and students; staff and students' ICT knowledge; and mind set of staff and students.

Based on the findings the study recommends the following for effective e-learning integration at OUT:
- Capacity building in ICT areas especially LMS for students, academic staff as well as ICT technicians
- Capacity building on e-content designing for academic staff and ICT technicians
- Given the high costs of computers and internet connectivity the OUT subsidy strategies need to be explored.
- Computer laboratories should be put in place at all regional centres.
- Students and academic members of staff should be motivated to take basic computer studies at their study centres (where the computers are available)

- For rural areas students there could be some ways to mobilize students and help them to get alternative source of energy, e.g., solar energy and CDs to avoid digital divide between rural and urban students
- To identify staff who have interest in e-learning so that together with computer technicians they can work in teams to serve as pioneers in the area of e-learning in the courses that do not use e-learning so far. These could work with students (however few they may be) who have access to computers (preferably from regional centres with computer labs) so as to start the process of mainstreaming e-learning in a larger OUT student population. Let us take Maxwell (2009) advice, *"Think big, Start small"*

Another research could be done with larger sample size of the students, staff and regional centres. Thus, the findings would be more representative.

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