Emerging Technologies: Promotion of ODL and A Challenge to Zimbabwe's ODL Institutions

By

[1] Chigunwe Gilliet and [2] Ndoro Mercy
[1]Zimbabwe Open University, Faculty of Applied Social Sciences, P Bag 984, Bindura, Zimbabwe
[2]Women's University in Africa, Education Service Centre, Box MP 2221, Mt Pleasant, and Harare, Zimbabwe.
Email: gchigunwe@gmail.com

Abstract

The purpose of this study was to explore experiences of lecturers and students in using information technologies in Zimbabwean Open and Distance Learning (ODL) institutions. To achieve this the following questions were formulated: to what extent do lecturers and students make use of information technologies in ODL institutions in Zimbabwe; what problems impede effective use of information technologies in ODL institutions in Zimbabwe; and what recommendations do are for policy and practice make to improve effective use of information technologies in Zimbabwean ODL institutions? Purposive and convenient sampling was used to select lecturers and students who participated in this study. Literature review showed shortage and high costs of equipment, software and inaccessible physical telecommunications infrastructure are major problems for developing countries. The findings indicate that the majority of lecturers and students lack ICT skills and the major stumbling block to IT literacy is limited or unveiled ICT facilities. The study recommends that both lecturers and students be trained in use of ICT through institutional short courses. The Ministries of Education should have staff development policies that utilize ODL facilities in enhancing ICT skills among Zimbabwean, potential ODL students and lecturers. Effective monetary policies that can enhance ODL state universities in the provision of functional ICT facility should be put in place by the government of Zimbabwe. Considering that our sample was small we recommend that further research involving the ten regions be conducted to get a holistic picture of use of ICT in ODL institutions.

1. Introduction

Emerging technology world over has seen efficient delivery of ODL teaching and learning content through internet technology, Satellite or Microwave links as well as fiber optics. Such are paving way to new learning techniques unconstrained by time and space. More so, the explosive growth of Open and Distance Learning Institutions and their scale of operations have been facilitated by continuous technological innovations. It appears, E- learning, mobile techniques communication and information access and personal learning environments are becoming mainstream world over. Tinio (2002) notes that ICTs are powerful enabling tools for educational change and reform. When used appropriately, different ICTs help expand access to education, strengthen the relevance of education to the workplace, and raise educational quality by creating an active process connected to real life. The idea of sharing knowledge and the capability of using new sources for learning are enhanced by using ICTs. Thus, through use of information Technology, Zimbabwe's ODL institutions have opportunities to expand markets and improve flexibility of academic offerings too. The improved access and availability of educational technology is likely to enable more students to participate in the learning process through Open and Distance Learning in Zimbabwe. In view of this background, question then is: What are the experiences of lecturers and students in using information technology in Zimbabwean ODL institutions? To answer this question the following sub questions were formulated to ascertain how information communication technologies are being or could be used to improve effective learning in ODL institutions in Zimbabwe:

- To what extent do lecturers and students make use of information technologies in ODL institutions in Zimbabwe?

- What problems impede effective use of information technologies in ODL institutions in Zimbabwe?
- What recommendations are made for policy and practice to improve effective use of information technologies in Zimbabwean ODL institutions?

2. Literature Review

Howell, Williams & Lindsay (2003) have shown that distance education programmes in particular are growing in importance as centres for the development of knowledge society and this has led several countries, notably those in the west to develop strategies to encourage this effort aimed at providing people who do not have the opportunities to attend conventional institutions of higher learning. According to Ololube (2006) advances in information and communication technologies (ICTs) have posed complex problems for colleges and universities in Sub-Saharan Africa especially in their distance education programs to reaching the goal of promoting the development of a knowledge society. Igwe (2005) and Nwagwu and Ahanihe (2006) concur that efforts to improve ICT access in Africa have been hampered by a number of factors, these are summarized as follows:

- Prospective ICT users that have expertise, competencies and equipment to benefit from access to electronic information networks are minute in number;
- There are shortage and high costs of equipment, software and information compared to situations in the industrialized nations;
- There is lack of reliable and accessible physical telecommunications infrastructure; telecommunications monopoly, associated with overly restrictive regulations and high costs, and
- Lack of interregional networking and cooperation amongst national universities and international institutions.

Related to this is Tinio (2002) observation that the reality of the Digital Divide the gap between those who have access to and control of technology and those who do not means that the introduction and integration of ICTs at different levels and in various types of education will be a most challenging undertaking. Failure to meet the challenge would mean a further widening of the knowledge gap and the deepening of existing economic and social inequalities.

According to Tabor (2007) most studies indicate that a majority of ODL students in developed countries are opting for asynchronous or the fully online classes. The reason for their choice of this mode of instruction has more to do with the inability to make a commitment to a fixed time and place. These classes are accessible from anywhere and at anytime, but, for most enrolled, it is the convenience of the temporal availability that has them select the fully online classes. These students have been observed to be older (over 26 years) and most work during traditional classroom hours (Tabor, 2007). Thus they require flexible learning schedules. In Zimbabwe, most students enrolled in ODL universities as is the case with Zimbabwe Open University, are adults already in employment. Hence they demand professional development opportunities and classes to help them keep up with today's ever-changing work environment. In addition to that some aim for individual empowerment and self actualization for those who are close to retirement age. Today's emerging technologies such as the internet seem to be creating an environment of andragogy type of education. This type of education is hailed for its sensitivity to adult's needs and its flexibility as a type of mode of education delivery. With ODL, students are being mostly or entirely conducted off- site, such a system reduces the demand on institutional infrastructure such as buildings. In addition it cuts down on transport and boarding costs as students need not be on campus. It appears emerging technologies are catalyst for institutional transformation. The competitive modern marketplace demands rapid change and innovation, for which we believe Zimbabwe's ODL can act as catalysts by keeping its staff and society abreast with new technologies.

Synchronous and asynchronous modes are being combined in Zimbabwe's ODL delivery modes. For example, ZOU use periodic sessions of tutoring at least six hours contact per course per semester so as to

supplement the remote teaching. This means that new technologies such as internet and its features can play a pivotal role in Zimbabwe's ODL in promoting continuous interaction between lecturers and students, and between students after contact sessions.

Yusuf and Onasanya (2004) has observed that all Open Universities use distance education technologies as delivery methodologies and according to him, some have grown to become mega universities, a term coined to denote institutions with more than 100 000 students. Thus developments in IT have been adopted to promote multimodal, multilevel processes in Open and Distance Learning institutions world over and in Zimbabwe. Zimbabwe Open university, one of the largest ODL institutions in Zimbabwe, launched e- learning in 2010.The purpose being dual: to provide an increase in access to education for those who otherwise have no other opportunities due to work, family or physical limitation; as well as provision for a modality of instruction better suited for certain learners. It facilitates greater learner-instructor interaction and instructional design is made more accessible and more flexible. In fact, emerging IT technologies especially the internet can be argued to have made distance learning distribution easier and faster and have given rise to the 'virtual university, the entire educational offerings of which are conducted on line. ZOU, for example has extended its territory by creating the 'virtual learning center' which is viewed as the 11th regional centers of the university. This center caters for external students and Zimbabweans in Diaspora who are studying with the home university. Thus today's Information technologies are seen promoting ODL in their entire endeavour to democrat size educational opportunities and to provide access, equality and quality education to many. While IT plays a critical stage in Open and Distance learning. Darkwa, and Anao, (2004) has it that availability of IT facilities is one thing and implementation is another. The suggestion is that, whilst IT facilities are finding their way in Zimbabwe, a number of challenges are associated to their use.

3.   Methodology

In this study, we used convenient sampling to select two regions of Zimbabwe Open University. Our population was all the lecturers in Zimbabwe Open University Harare and Mashonaland Central regions. We used purposive sampling to select forty- two lecturers to whom we administered questionnaires. We were able to collect 40 questionnaires from them. Our student population included all Zimbabwe Open university in Mashonaland Central. Convenient and purposive sampling was used to select and interview twenty students, four from each of the four faculties in ZOU Mashonaland Central Region. Data was analyzed using simple statistics and is presented using tables and narrative descriptions.

4.   Findings of the Study

Table 1: Features of the Internet Those Lecturers Are Most Familiar With

Statement	Frequency N = 40	%
Web feature	14	35
Usenet group feature	4	10
Electronic mail	11	27.5
Internet Relay Chart	3	7.5
Key mailing	2	5
Real World	2	5
Mailing List	4	10
	40	100

Data presented in table 1 shows that the majority of lecturers are not well versed in key mailing internet followed by real world features. Key mailing list features can be argued to be critical knowledge to both

lecturers and students in ODL universities because they support one to many communications, enabling one person to communicate with many people at the same time.

Table 2: Which features Of the Internet Do You Feel You Need Staff Training? N= 40

Statement	Frequency	Out of
Usenet group feature	26	40
Internet relay	32	40
Electronic mail	8	40
Key mailing	20	40
Real World	22	40
Mailing List	18	40
Newsgroup	32	40
Chartrooms	30	40

The findings suggest that the majority of lecturers are able to navigate e-mail but lack skills in critical internet features that contribute to the success of online learning in ODL.

Discussion Based On the Findings

Our findings suggested the majority of both lecturers and students lack ICT skills. It was revealed that most lecturers and students lack skills in the internet and its features, (see table 1 and 2) According to Allen and Seaman (2011), the internet is mainly possible as a result of its features. The features of the internet as highlighted by Allen and Seaman (2011) include web features, Usenet group features, electronic mail, internet relay chat (IRC) features and key mailing list features to mention but a few. The fact that the majority of ODL lecturers lack skills and knowledge in such features pause challenges to the efficiency of the use of internet features in Zimbabwe's ODL institutions. Of course internet literacy is vital to conventional lecturers too, but our crust of discussion centers on ODL lecturers since today's Open and Distance learning requires electronic modes of delivery.

In fact, the value of emerging IT technologies in ODL institutions cannot be over emphasized. According to Yusuf and Onasanya (2004) internet is the major index of an academic staff quality. It determines a lecturer's advancement. ODL lecturers can communicate with one another through e-mail, mail lists, newsgroups and chart rooms. These internet features enable communication between lecturers as they can post research assignments, books or journal lists references to on- line materials. They further provide greater opportunities for research collaboration and networking among ODL lecturers and other lecturers in general who are spread throughout the world. Thus national and international dimension of research issues can be studied as they can allow for communication with peers and experts around the world. According to Vaughan (2010) internet skills facilitate research in any discipline as they provide quicker and easier access to more extensive and current information through digital libraries that provide digitalized full-text resources to learners, researchers and lecturers.Web features on the other hand have a search capacity that provides the capacity to effectively search the content of millions of web pages in seconds. Skills and access to web features facilitates ODL lecturers and students to effectively search content of millions of web pages in seconds. Social networking sites like face book, twitter, MySpace, YouTube, flicker to mention some create opportunities for people to meet, communicate and collaborate in research development. More so, the Usenet promote ODL since it is a powerful facilitator of group communication. One person can post a message on the Usenet, another person reply to it and a third person reply to either message, no matter where they are in the world and whenever it is convenient to them. Key mailing list feature of the internet supports one to many communications, enabling one person to communicate with many people at the same time. Thus for lecturers and ODL students to benefit from these IT features, they should be able to use the internet.

ODL lecturers should be internet literate since e- learning and other electronic communication features demand internet connectivity and skills. Internet literacy can be defined as the ability to use, understand and communicate effectively using the internet; its tools and features (Allen and Seaman, 2011). It involves possessing skills required to create and publish new knowledge, collaborating responsibly through the internet. Skills in IT as is the case with internet technologies are needed by everyone; this includes potential ODL students and lecturers. The above observations and discussions are a compelling reason why ODL lecturers who are custodians and disseminators of knowledge should have IT skills and internet literate. They need such skills especially for research, academic development and reaching out to all.

However, it appears the major stumbling block to IT literacy by both lecturers and students is limited or unveiled IT facilities. Computers have been observed to be a scarce commodity in most households and rural areas of Zimbabwe and this places a great challenge to the implementation of e- learning. Our observations concur with responses in chart one where 55% were of the opinion that e-learning in Zimbabwe's ODL is thwarted by lack of infrastructure. However such emerging technologies pauses challenge to Zimbabwe's ODL institutions to find alternative equipments to access and strengthen skills in the internet. Such alternatives may be the use of mobile phones.

Although implementing the use of mobile phones to access learning materials is not a recurring issue as lecturers have not previously encountered this method of delivery, it can be argued to be an emerging issue for developing countries such as Zimbabwe. As we are trying to implement online learning effectively, as a developing country can also explore the use of mobile technology. While the small screen and the current inputting devices make them difficult to use for many educational purposes; they have various advantages: devices are more affordable than computers, are socially acceptable in all strata of society, are easy to use, and are everywhere. We have observed that since 2009, most Zimbabweans including household maids can afford mobile phones and boosters have been installed in most part of urban and rural areas. Zimbabwe Open University has been observed to give its lecturers cell phone allowances. The purpose of such allowance is to enable lecturers to reach out scattered students through air. Of interest to note is mobile phones can be used to contact students with specific messages related to administration and educational content. Mobile phones can also be used to contact students about tutorial classes and activities or cancellations, and to record and distribute photographs and audio or podcast recordings. In Nigeria, mobile phones are used to teach literacy to some of the 9.3 million nomads who wonder over its terrain or along its shoreline (Aderinoye, Ojokheta, & Olojede, 2007). The phones are also used to send job listings and health information to low-income residents of Cameroon and Uganda and to enable doctors to diagnose patients in remote areas in Kenya and Tanzania (Oblinger, 2000). The above suggest that ODL institutions in Zimbabwe can make use of mobile phones to kick start e-learning.

Zimbabwe Open University, however, has made great strides in equipping its ten regional centers with computers and by putting in place a credit facility to enable lecturers and staff to acquire laptops. We observed that while efforts have been made by the university in question, a drawback is created by lack of access to ICT facilities such as computers and internet by majority of students who reside in rural areas. More so, the majority of ODL student and potential students cannot afford the cost of ICT equipment. Such creates a gap in the adoption and enhancement of electronic learning and the maximum use of the internet in Zimbabwe's ODL institutions. Thus, it may be effective to orient students on accessibility of the internet and e-learning through mobile phones which happens to be an affordable, broadband infrastructure which the local IT companies can be taken advantage of.

A London Business School study indicated that an increase of ten mobile phones per hundred people boosts the economical growth rate of developing countries by 0.6% (Aderinoye, Ojokheta, & Olojede, 2007). There is no doubt that with the tremendous growth of mobile phones in developing nations, the interest educators express in using these devices, and the involvement of mobile phone manufacturers in

projects that will expand educational opportunities, a time will come when the phones are used not just for communicating, conducting financial affairs, and performing administrative tasks, but also for in-depth learning and assessment. The future of mobile learning is unwritten, but it may become the foundation of an exponential growth in distance learning because mobile appliances are ubiquitous, affordable, and have wireless capabilities that can reach urban and rural areas that lack a terrestrial infrastructure. However, those who adopt mobile learning are likely to encounter the issues discussed above relative to online learning.

4. Recommendations:

Based on our findings we make the following recommendations for the success of ODL through Emerging Technologies in Zimbabwe:

- ODL institutions should consider the use of mobile phones in their endeavour to promote e-learning. Students can be oriented in the use and access of e-learning through mobile phones. This can be through the introduction short courses in emerging IT technologies;
- The Government of Zimbabwe should carry out a comprehensive power and telecommunication sector reform in the country so as to have uninterrupted power supply and a functional telecommunication;
- Effective monetary policies that can enhance ODL state universities in the provision of functional ICT facility (Internet Connected Computer Systems with appropriate software and hardware) should be put in place by the government of Zimbabwe. Sound economic and education policies can go a long way in reducing poverty and improve IT accessibility by all Zimbabweans.
- ODL universities should put in place at IT training department which trains and staff develops lecturers in new or emerging IT technologies. Such a department is important as it enables lecturers in ODL institutions to maximize the use of all Internet features and emerging IT technologies.
- Equipping primary and secondary school teachers with IT skills through ODL facility can promote IT skills among growing children and potential ODL students.
- Zimbabwe's ODL institutions, for example ZOU, can put in place IT short courses facility. University experts in ICT can be made to man the IT short course department.
- The Ministry of Education, Sport and Culture should put in place staff development policies that utilize ODL facilities in enhancing ICT skills among teachers who in turn may equip pupils with IT skills. Such knowledge base may build ICT literacy among Zimbabwean citizens and among Zimbabwe's ODL potential students and lecturers.
- Considering that our sample was small we recommend that further research involving the ten regions be conducted to get a holistic picture of use of ICT in ODL institutions.

5. Conclusion

Our study revealed that most ODL lecturers in Zimbabwe lack IT skills, especially areas related to internet features. Lack of infrastructure reduces the effective implementation of e-learning in Zimbabwe's ODL institutions. However, despite the challenges described in this paper, emerging information technologies make it possible on the one hand for larger numbers of people to have common learning experience in real time. More so, it enables an individual learner to have a unique personal interaction with a tutor or with another learner, no matter where located. IT has seen new institutions and modes of ODL delivery launched each year world over, existing traditional institutions are expanding their open learning options, and enrolment in distance education courses continues in Zimbabwe. The continued growth and success of distance education institutions however depends on the extent to which information and technology issues covered in this article are addressed by ODL institutions management,

Zimbabwean government and the corporate world. Otherwise, Open and Distance Learning complimented with emerging IT is the promise of a more accessible education to all

References

Aderinoye, R.A., Ojokheta, K.O. and Olojede, A.A (2007). *Integrating Mobile Learning into Nomadic Education Programmes in Nigeria; Issues and Perspectives*. International Review of Research in O pen and Distance Learning. 8(2). **http://www.irrodl.org**

Allen, I.E and Seaman, J. (2011). (PDF). *Making the Grade: Online Education in the United States. Needham; Ma: The Sloan Consortium*. ISBN 0987654321. Retrieved 12 April 2011.

Darkwa, H.B. & Anao, M. (2004). *Adapting Information and Communication Technologies for Effective Education.* Available: http://www.scribd.com/doc/20070765/Adapting-Information-and-Communication-Technologies-for-Effective-Education

Howell, S. L. Williams, P. B. & Lindsay, N. K. (2003). Thirty-two Trends Affecting Distance Education: An Informed Foundation for Strategic Planning. *Online Journal of Distance Learning Administration,* Vol. 6(3).

. Igwe, U. O. (2005). Harnessing Information Technology for the 21st Century: LibraEducation in Nigeria. *Library Philosophy and Practice* Vol. 7(2)

Pelgrum, W.J. (2001). Obstacles to the integration of ICT in education: Results from a worldwide educational assessment. *Computer & Education, 37,* 163-178.

Tabor, S.W. (2007). *Narrowing the Distance: implementing a Hybrid Learning Model. Quarterly Review of Distance Education*. (IAP) 8(1): 48-49.

Tinio, V.L. (2002). *ICT in education*. Available: http://www.eprimers.org

Yuen, A.H.K., Lee, M.W., Law, N. & Chan, A. (2008). Factors Predicting Impact of ICT-Use on Students: An Exploration of Teachers' Perceptions. The proceedings of IRC.

Yusuf, M. O. (2005). Information and Communication Technologies and Education: Analyzing the Nigerian National Policy for Information Technology. *International Education Journal* Vol. 6(3), 316-321.

Yusuf, M. O. (2006). Problems and Prospects of Open and Distance Education in Nigeria. *Turkish Online Journal of Distance Education,* Vol. 7(1), 22-29.