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An Impact Evaluation of ICT Utilization in Zimbabwean Universities' ODL Administrative and Delivery Processes. A Case of 4 Harare Universities (2009 - 2011)

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Abstract: ***The research study is 'An impact evaluation of ICT utilization in Zimbabwean universities' ODL administrative and delivery processes. There is ever increasing pressure in the educational system in using ICT to teach or develop study materials. This is coupled with low uptake of technology to transform the curriculum and the teaching and learning landscape. A great number of challenges confront universities in overall utilization of ICT especially in administrative and delivery processes. The study utilized mixed methodology paradigm guided by the exploratory and descriptive survey designs. Data were collected and gathered using questionnaires, focus group discussion, key informants and document analysis. Data were collected from 400 lecturers, tutors and students (current and graduated) in six universities. Participants were selected initially purposively using the simple random sampling procedure. Instruments were checked for validity, reliability, triangulation and ethical considerations were contextualized. Data were presented and analyzed using simple frequency tables, tables, graphs and some measures of central tendency. Research results revealed that though technology had been integrated in the universities, it was at varying levels. Chief of which was infrastructure availability and competence of lectures and students. The study recommended that lecturers be capacitated to improve competencies and access to technology. It recommended that there be improved infrastructure, delivery processes and harmonized ICT policies in Higher Education to ensure overall utilization and associated benefits derived from technology.***

Keywords: Administrative processes, Delivery processes, Information and Communication Technology, Impact Evaluation, Open and Distance education Learning

1. Introduction

A few of the universities in Harare like the University of Zimbabwe (UZ) are just over 50 years old while others such as Zimbabwe Open University (ZOU), Women's University in Africa (WUA), Catholic University in Zimbabwe (CUZ), Christ College (CC) and Central Africa Correspondence College (CACC) an Associate College of Midlands State University (MSU) were founded around the 90s. Historically some of these universities started as colleges but were elevated to university status due to their affiliate status to state universities such as CACC and Christ College (CC). While new buildings are constructed or modified, the reality for most universities is that the existing spaces must, in the short term be adapted to accommodate new learning technologies. Of these higher learning institutions under study, UZ, ZOU, WUA, CACC and CC have Open and Distance Learning (ODL) programmes unlike CUZ which focuses on conventional system but the aspect of Information and Communication Technology (ICT) still applies in delivery and administrative processes. ICT is increasingly becoming a crucial tool for facilitating global education and African universities and Africa's unique least developed position makes her particularly suitable to take advantage of the many opportunities offered by ICTs. Keen interest in Open and Distance Learning (ODL), instructional materials development as well as administrative and delivery processes of both conventional and distance education influenced the researcher to assess the underlying challenges and impact of ICT utilization in tertiary education. This research evaluated the impact of ICT utilization on instructional delivery and administrative processes in the context of its use and concrete circumstances of the individuals involved., Challenges evaluated were availability and cost of hardware and software, accreditation of students, delivery of lessons, lecturers' ICT qualifications, limited time and time table restriction, competing demands on scarce budgets, communication networks, students support services, administrative functions, lecturers' lack of ICT qualifications, lack of creativity ,unwillingness to change and possible difficulties in linking ICTs to the curriculum.

1.1 Background to the problem

Most countries are now faced with the dilemma of having to satisfy, an increasing demand for education at post-compulsory level, at tertiary level in particular while resources are scarce. Distance education is cost-effective in terms of the inputs. According to the Commonwealth of Learning (COL), (2007) there is great contention that Open and Distance Learning (ODL) programmes must be guided by institutional policy that specifically addresses its needs. A dual mode institution needs to clearly address the overall role and purpose of open and distance learning in its institutional profile, if it is to achieve all of its strategic goals and objectives. Most of the universities under study use the dual mode of delivery at one point or another. Dual mode

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institutions teach both on campus and at a distance. In most dual mode institutions, policy is based on the needs of on-campus students and faculty, as distance education is a minimal, peripheral component or may be a recent addition to the institution's programmes. However, policy issues crop up in ODL whether it is recently introduced or well established. In the rapidly developing ODL environment, policy must be constantly reviewed and adapted or new policies developed to accommodate changes in ODL practice, such as increased use ICT). As in the example above, it is problematic to apply established policy to ODL without adapting it to the ODL context. In order to work, policies must be realistic.

An institution's ODL policies must take into account the reality that ODL is different from conventional education in the way it is taught, how the material is delivered to learners, and how the students actually learn and interact with their teachers/facilitators and each other. An institution's policy makers must also consider how ODL policy is influenced and partly shaped by state and national policies, new technologies, accreditation requirements, institutional legislation and existing internal policies and procedures. The Harare universities highlighted above have in their curricular programmes a component of Open and Distance Learning (ODL) where at one time or another learner is separated by distance whilst at the same time receiving tuition from the parent university. The technology, administrative practices and delivery methods used have evolved from mere text and face to face to more sophisticated technological application which has gone through generations of improvement to meet the current student needs and demands on operational challenges. Although valuable lessons may be learned from best practices around the world, there is no one formula for determining the optimal level of ICT integration in the educational system. Attempts to enhance and reform education through ICTs require clear and specific objectives, guidelines and time-bound targets, the mobilization of required resources, and the political commitment at all levels to see the initiative through. The Zimbabwean educational context is a case in point where the President (Cde R. G. Mugabe) has extensively distributed computers at a national level in universities, primary and secondary schools and the subsequent formulation of e-government draft policy by the then Minister of Information and Communication Technology(Mr Nelson Chamisa) (Herald August, 2011).,

Rumble (1992) observed that most conventional universities could not cope with the large volumes of secondary graduates the world over. There was greater demand for education from people wishing to update and upgrade knowledge and skills to either perform their work better and become responsive to the demands of the dynamic world. According to the Williams Committee Report in Zimbabwe (1995:38), the ever increasing demand for university education, training and qualifications by school leavers and adults who missed out opportunities at university created the need for additional state universities like ZOU. ODL institutions were put in place to provide much more flexible and individualized educational experience compared to formal learning. The needs satisfied by ODL are diversified, and so are their modes of delivery. The diversified systems are in respect of their size, structure, purposes, technologies, choice, underlying philosophy and efficiency. Nonetheless, ICT has had a major impact on conventional and ODL in Zimbabwe and many countries in the region. The researcher observes that more than the availability of these technologies, issues such as geographical location, lack of knowledge and skills to use ICT, and financial constraints are major considerations in deciding what ICT to use and in what combination. Indeed, the use of a particular ICT must not only address certain pedagogical concerns, it must aim to bridge the digital divide and democratize access to quality education.

Experience has shown that when a decision has been made to use a technology in conventional and ODL, this decision influences not only the teaching and learning environment; it leads to development of new cultures, concepts and understanding. Old and new technologies need to be used in a balanced way. On-the –air and off-the-air radio/radio cassette, television and offline video-assisted technologies are still considered valid and cost effective modes of delivery, as important as more interactive computer/Internet-based virtual or online ODL programmes. The demand for higher education cannot be met in both developed and developing world without distance or virtual modes of learning. A Paper presented by Siaciwenaon 1 December 2009 at Victoria Falls shows that the region is keen to see the integration of ICT in all teaching, learning and training processes. The paper recommended strengthening the design and implementation of ODL programmes through the provision of scholarships in ODL at Certificate, Diploma and Masters levels. The SADC ODL project supports the participation of ODL practitioners in Regional and Continental ODL workshops and conferences. Most notable are the conferences organized by the African Council for Distance Education (ACDE), Distance Education and Teacher Training in Africa (DETA) the Distance Education Association of Southern Africa (DEASA). The researcher has observed that curriculum changes need to be planned so that they become learner centered which would be customized to meet different need preferences and cultural practices. Universities particularly traditional face- to- face institutions have taken time to provide leadership to other tertiary institutions and society in newer technologies to complement ODL

Domingo (2006) observed that Asian institutions that have utilized ICT effectively, have changed the way lecturers/teachers and administrators approach curriculum delivery. Ibid (2006)further suggests that ICTs have influenced or shaped the development of ODL as well as how quality of education is ensured in a technology driven system of teaching and learning. The researcher appreciates that ICT pervades modern society to the extent that many countries now regard the mastery of information and communication technology as a core element of basic education alongside literacy and numeracy. ICT is more than just another subject for students to study; ICT has the potential to be a valuable tool in enhancing the quality of teaching and learning.

Taylor and Hogenbirk (2001:10) identified that an example would be ICTs used to support learning processes which can be classified into two main categories, the first being

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hardware and second being software.. Technological advancements have enhanced the variations which can be observed in the ICT software components needed to support learning processes. Such software tends to be customized to address variables such as : specific applications and purpose for which it will be used , the combination of hardware use to support for example ODL applications, features that need to be incorporated to meet the users' needs. The lack of good quality data and absence of guidelines for collecting data makes it difficult to assess the impact of ICT on education, and therefore hinders the ability of policy makers to make detailed plans for better integration of ICT into education. The presentation of Government's role on ICTs showed some data related to current availability of ICTs as of 2009. There is evidence of low take up of communicative technology, (Chirume 2009). At a national level, there are some initiatives being taken to expand ICTs for example there is need to create a knowledge based economy with ICTs facilitating e-learning –with remote access and virtual classrooms,(Scriven (1972), Stake (1976) and Rowtree (1992)

Technology then should not drive education, rather, educational goals and needs, and careful economics, must drive technology use. What ICTs as educational tools can do, if they are used prudently, can enable developing countries to expand access to and raise the quality of education. UNESCO recognizes the potential of ICT to transform the teaching-learning process in the Non-Formal Education context, as well as its potential in changing the way educators and learners gain access to knowledge and information. An examination of countries in the Asia-Pacific region has shown that in this region ICT is not being used to its full potential in enhancing the quality of teaching and learning due to both technical and capacity-related barriers that have to be overcome. Many countries of the region do not make use of ICT at all in their education systems due to technical barriers (such as lack of infrastructure, equipment and connectivity) but even in countries where the technical barriers have been overcome and ICT is present in classrooms, other kinds of barriers remain. In these countries, ICT is often used simply as a supplement for existing pedagogical practices.

However in order to fulfill the potential of ICT as a tool for enhancing teaching and learning, ICT must be fully integrated into pedagogical processes, which requires a cognitive shift on the part of educators, curriculum developers, administrators and policy-makers. This research therefore puts into context all the variables which need to be investigated as highlighted in the background. The most contentious observation is that there is some form of resistance in absorbing all the challenges associated with technological changes and that most educational institutions are very conservative signifies the slow take off on the use of serious of utilization of ICTs for ICTs for the efficient and effective use effective use of scarce resources in an effort to produce quality goods and service. There is a general common trend in the views expressed from developed to developing economies with regard to ICT integration in universities whilst there are common issues which cut across especially the role of the lecturer and ICT in a university. Much emphasis has been on studies related to secondary education and Colleges with little having been done in universities which use single, dual or ODL modes of delivery

2. Studies related to ICT integration and utilization in universities

Increasing the quality of teaching and learning has been a seemingly important concern for education since the beginning of this century. According to Januszewski & Molenda, 2008), education has faced a variety of social, cultural, economical, and technical challenges. The field of educational technology attempts to overcome challenges by developing new approaches and frameworks with information and communication technologies (ICTs) representing a new approach for enhancing the dissemination of information and helping to meet these challenges. ICTs comprise the use of at least a computer and the Internet as well as computer hardware and software, networks, and a host of devices that convert information (text, images, sounds, and motion) into general digital formats, (Lever-Duffy, McDonald, & Mizell, 2003; USDE, 2000; ISTE, 1999, 1999, Taylor and Hogenbirk 2001). A number of challenges are associated with the influence education has on has on physical access to the technology (computer hardware and telephone) installation of telephone infrastructure like fibre optic cables, microwave, radio wave transmissions and submarine cables. Pre-requisite skills needed for one to use this technology effectively and have access to the Internet services like tutorials, library, career guidance, counseling and academic and administrative consultations, must be available in a wide variety of forms, such as online chats, and via SMS (Short Message Services) email, online interviews using VOIP or SKYPE

A number of cross cutting issues were highlighted but regional comparisons could have been made and contemporary theories about learning enhanced. Prudence therefore requires careful consideration of the interacting issues that underpin ICT use in universities which include; policy and planning, infrastructure development, human capacity, language and content, culture, equity, cost then curriculum. (Goktas, Yildirim, &Yildirim (2009).In a study "Main Barriers and Possible Enablers of ICTs Integration into Pre-service Teacher Education Programs.**" Educational Technology & Society, 12 (1), 193–204.**

2.1National Perspective: The Zimbabwean ODL Landscape

Open and Distance Learning has been used in Zimbabwe for decades, with substantial number of today's politicians, captains of industry, educationists and social leaders and populations from underprivileged communities acquiring their education exclusively or partly through this mode of teaching /learning. This mode has evolved to the fourth generation even though characteristics of the first three evolutional phases are still dominant, with the internet-based mode just starting to gather momentum. In order to get a fuller understanding of ODL as it obtains in Zimbabwe at the moment, it is important to place this mode of education in three categories. These, the researcher refer to as the non-tertiary type, the tertiary type and dual mode. The non-

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tertiary category entails the use of basic ODL modes of teaching in primary and secondary education levels. The government of Zimbabwe has a policy supported by activities on the ground whereby, through the Ministry of Education, Sport, Arts and Culture, learners are enabled to learn through the provision of study materials. This is typical of ODL, as they make use of these materials entirely on their own and proceed to write examinations. Hundreds of mostly adult learners have benefited from this programme, with some even acquiring tertiary education on the basis of this policy. However, this type of ODL is not as vibrant as it should be, considering the glaring absence of publication and awareness construction around the Zimbabwe Primary Correspondence School which has been in Zimbabwe since its inception in 1930. Many more people from such settings as farming communities and hard to reach rural areas would have benefited if the Government had bolstered the programme. ODL cases are easily identified through higher learning institutions both private and State-owned. Private colleges like the Zimbabwe Distance Education College (ZDECO) and the Central Africa Correspondence College (CACC) have been providing learner support to thousands of students over decades, though the provision mostly of school equivalency and diploma programmes. However, it should be noted that they have also been facilitating non-tertiary education, making them fall in the dual category. At the exclusively tertiary level, The Zimbabwe Open University, (ZOU) is the leading example. Established in 1999 and having graduated close to 19, 000 students since the maiden graduation ceremony in 2003. ZOU belongs to the single mode type of ODL institutions because its academic and administrative staff is dedicated to ODL. The Women's University in Africa (WUA), another fairly recent ODL institution, has a dual tertiary nature in that it provides a modicum of open learning but largely dedicates its mandate to the traditional F2F classroom mode of instruction and teaching. Although ODL holds vast potential in addressing the social and economic challenges as discussed in this paper, there are several factors militating against it. These include negative perceptions against ODL, limited resources among ODL institutions, limited interest at policy level to boost Open and Distance Learning. Historically, ODL has been mistakenly viewed as education for the disadvantaged groups as the poor, political prisoners and academically students who cannot make it through conventional education. Some people still view distance education as correspondence education. There is need, therefore, for government to decisively recognize and support ODL and build and come up with policy interventions that ensure that ODL is not perceived as an inferior form of delivery. ODL requires substantial investment in ICT infrastructure development. For example, the tele-density, mobile density, PC density and internet connectivity in the SADC are still very low compared to Europe. Yet these are the basic tools required for multi-media learning delivery. The poor ICT infrastructure negatively affects the capability of ODL delivery and this contributes to the poor image resulting in it being viewed as correspondence education. The absence of suitable administration databases and printing presses affect the quality of ODL. In Namibia and Israel, the development of learning materials for ODL is an area of keen interest by Government to the extent that these are developed centrally. Lack of recognition of this fact in Zimbabwe has created problems that affect the learning process. There is also lack of recognition of the fact that the learning materials take the place of lecturers in convectional universities. Because of lack of Government support in physical infrastructure development, ODL institutions sometime operate from street corner offices which do not reflect the true brand of what ODL is. This undermines ODL efficiency and image. There is need, therefore, for the Government and other educational players to invest more infrastructure for ODL which includes, Wide Area Network (WAN), computer hardware and software, the development of learning materials or printing presses and the development of Enterprise Resources Planning (ERP) systems to carry data bases and all other institutional records efficiently and the construction of physical infrastructure at the main centre of operation. Investment is also critically required in human resource capability building for ODL to play a more positive role. This would greatly assist ODL to effectively address the various social and economic challenges. The same views were also expressed by Prof G. Kabanda (Pro- Vice Chancellor- ZOU) at a SADC ODL policy framework workshop at Kingdom Hotel, Victoria Falls in March 2011.

2.2Reviews on the context and trends in distance education

Over the years a number of reviews of distance education literature have been published in which the authors developed categorization schemes of research areas that they mapped onto the articles under review: Scriven(1991:141)Panda (1992:134) reviewed 142 studies on distance education conducted in India, furthermore provided a conceptual framework for distance education research based on the model of systems philosophy, distinguishing between input (e.g. courses, students, staff development), process (e.g. two-way communication, student support services, evaluation) and output variables (e.g., student achievement and satisfaction, effectiveness and efficiency of the entire system). A similar study was conducted by Koble and Bunker (1997) for The American Journal of Distance Education (1987-1995). On the other hand Mishra (1997:49) published an analysis of periodical literature in distance education (1991-1996) with seven major groups and 34 sub-groups of research topics. Berge and Mrozowski (2001:7) adopted Sherry's ten issues in distance education (Sherry, 1996) for their review of research in distance education between 1990 and 1999, Rourke and Szabo (2002) applied nine categories for a content analysis of the Canadian Journal of Distance Education (1986-2001). Lee, Driscoll, and Nelson (2004:227) developed a system consisting of six categories for grouping distance education literature. In order to identify distance education research priorities for Australia, Jegede (1994) developed a questionnaire that was validated by a group of 36 Australian distance education researchers and practitioners. The questionnaire contained 22 broad groupings of research areas. The researcher looked at policy initiatives in Nigeria since 1988 to make comparative make comparative analysis. The review showed that these policies have been targeted at ensuring the integration of information and communication technology (ICT) in their school system.

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There are several global gateways of on-line resources to support teachers' development. These include: ICTs in Education, developed by UNESO, Paris; Education Network of Australia, developed by Education Institute, Adelaide; Institute of Education Technologies in Education, developed by UNESCO, Moscow; and so on.

These portals provide opportunities for users to ask questions, post materials, and submit assignments (Anderson, 2004). Also, ICTs will shift focus from teacher-centred to student-centred learning, where teachers become a learning facilitator, collaborator, coach, mentor, knowledge navigator, and co-learner and not a dispenser of knowledge. In addition, ICT can be multi-media for instructional delivery. Instructional content can be delivered in textual, audio, visual, and audio-visual forms. Thus, equity can be ensured for all categories of learners (disabled, geographically disadvantaged, those who cannot attend regular school, etc.). Several studies have indicated the academic benefit of ICTs in education. Meta analyses have found consistently positive and moderately high achievement gains at all educational levels from computer mediation in school subjects, particularly mathematics. The computer-assisted instruction was found more effective in all educational levels and with lower achieving students (Kulik, 1983; Kulik, Kulik, & Cohen, 1980, Cradler & Bridgforth, n.d). It must be underscored that the best predictors for achievement gain in the use of computer were prior positive attitudes towards the technology by teachers and students, consistent access to the technologies, and teacher training in the technology, among others(Maldonado, 2000).policies so that the country education system could husband the potentials of ICTs(Maldonado, 2000)..

For instance, Yoloye (1990) in his finding revealed that educationists at the University of Ibadan have positive perception and attitude towards computer and, in fact, would like to be trained to use it. Similarly, most teachers in Nigerian secondary schools have positive attitude towards computer education (Yusuf, 1998). However, empirical studies have established that educationist at the University of Ibadan level of use of computer is very low (Yoloye, 1990) and that wide gap exists between implementation and requirements outlined in the Nigerian computer education policy (Jegede & Owolabi, 2003).

2.3 Barriers to ICTs Integration in Nigerian School

Adjustments on the timetables to accommodate ICT related activities might place a heavy load on the already loaded curriculum hence there are difficulties in linking ICT to the curriculum. Because of the process of making ICTs hardware and software available is expensive coupled with tight budgets and at times with the lack of lecturer creativity, there speed of integrating ICT could be very sluggish. Costs are inhibiting barriers in some universities especially when it comes to their outreach programmes in rural communities where large parts remain excluded from either telephone or electricity connections Some examples may have been highlighted but contributions from BECTA(2004) and Yusuf (2005f) points at lack of lecturer's confidence, and computer anxiety, lack of time for skills and pedagogical training, access and poor organization of resources like hardware and software, lack of technical support like telecommunication and other infrastructure. Whilst this research focused on the period 2005 – 2009 major emphasis was on the utilization of ICTs in the universities with a view to recommend maximum utilization for the benefit of learners and their parent universities as well as all the wide array of stakeholders who are ready to consume products/ outputs of these institutions.

2.4 Experiences of the SADC Capacity Building on ODL and the Philippine experience

Regional body, SADC accommodated issues on ODL as accounted for by the secretariat on ODL as evidenced in the Victoria Falls 2009 presentations. There is great need to support gender balanced study visits by country teams comprising five persons, two from teacher. The main purpose of study visits and attachments is to contribute to the development of ODL practitioners' knowledge and technical ability through sharing of information and best practices and lessons learnt from other institution. These are expected to contribute to improved planning, development, management and general delivery/implementation of ODL programmes. The influence of the information and communication technologies (ICTs) in open and distance learning (ODL) in a developing country, the Philippines, is critically evaluated in this paper. Specifically, this paper examined how ICTs have influenced or shaped the development of ODL in that country. Also examined were the different stages or generations of distance education (DE) in the Philippines, which are characterized mainly by the dominant technology used for the delivery of instructional content and student support services. The paper discussed how ICT influenced the development and implementation of ODL in the Philippines. It also described specific ICT and their applications in ODL, and evaluates the overall influence of ICT within ODL contexts in the Philippines. The development of ODL in the Philippines has undergone four general stages or generations. Unlike other countries, the root of ODL in the Philippines was not print, nor even correspondence. On the contrary, radio was the first ODL instrument. Early ODL in the Philippines – which were radio programs designed, developed, and implemented by Filipinos for the Filipino people – consisted of informal, non-credit courses offered in the area of agriculture. By the dawn of 2006, the Philippines had 40 million mobile phone subscribers – six times more than in the year 2000 (The Communication Initiatives, n.d.). The Philippine example shows that there is a lot to compare from a Zimbabwean perspective as similar route has been taken. Differences might be in terms of uptake of technology but the four generations which marked the reduction of digital divide seem to be international trends.

2.5 Major Roles of ODL in universities delivery and support Services

Kasambira (2001) concurs with Rwambiwa (2001) that there that there are many advantages to delivering lessons electronically. It is therefore imperative that teaching techniques must be chosen and used so that the optimum condition for the learner to learn will result without

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hindrances. On off the campus programmes, ODL, ODL and ICTs should facilitate should facilitate and gather much needed data on geographically distributed subjects such as students, university staff and learning centres. It also provides opportunities for the following, performing management and administration functions, Document Tracking System (DTS) for application for admission, online registration system, orientation of new students and online submission of grades, digitization of students records. Physical classes through tutorials and use of low - cost widely available social technologies social technologies such as Skype, Yahoo, Blog, Twitter, YouTube, Messenger and Messenger could enhance efficient utilization of ICTs in ODL and should ensure quality education through enhanced integration of technology. Student support systems have two dimensions, the pedagogic and the administrative dimensions hence setting up and maintaining learning centres with provision for using ICTs is critical

Garcia (2002) concurs with Librero (2006) that Curriculum changes need to be planned. Garcia (2002) contends that the use of ICT has been viewed as critical in the provision of Information Literacy Skills Development. Digital presentations and much more synthesis of information is realized in the teaching/learning process. Assignments could be posted on line not only for post graduate students but for all those enrolled in the institution. There is evidence of little collaboration in universities as interactive asynchronous discourse becomes an important learning method. The ODL methodology should put more emphasis on communication, community and creativity for high, value added organizations. Beare (1998:17)highlights some highlights some major reasons for delay in integration of ICTs in universities as lecturers' lack of ICT qualifications, limited time and time table restriction, expensive hardware and software, competing demands on scarce budgets, lack of creativity and unwillingness to change and difficulties in linking ICTs to the curriculum. Fletcher and Deeds, (1991), noted that overall, teacher education programmes do not prepare graduates to use technology as a teaching tool. To ensure that future teachers can effectively integrate computers into instruction and assessment, a comprehensive set of guidelines for general technology training for all teacher preparation program was developed in the United State by the International Society for Technology in Education (ISTE) (1993) and adopted by the National Council for Accreditation of Teacher Education (NCATE) effective September, 1994.

2.6 How ICT use has changed the way lecturers /teachers and administrators approach curriculum delivery

In terms of Organization and Control of Open and Distance Learning, Rumble (Rumble (1992:48) contends that ODL comprises a group of teachers who develop, write lessons and sends them to students. Assignments are sent back to the University for marking and then returned to students. The use of ICTs would make it easier and at the learner's convenience just downloading information downloading information about assignments from the Internet. Rumble (Rumble (1992:77-79) posits that there are management information needs which needs which need to be monitored. Normann (1984) in Rumble (Rumble (1992:78) maintains) maintains there is no other way of achieving of achieving high quality in every single contact between contact between a customer and a representative of the institution except maintaining a maintaining a pervasive culture and making sure that every employee not only possesses the appropriate skills but is also guided by the appropriate ethos. On the other hand Loveless and Ellis (2001) share the view that management should focus on training programmes of customer care, develop a sense of trust between all stakeholders. On Student learning, emphasis should be placed on how the new technology supports and enhance learning. There is need to integrate ICT in the curriculum in all universities' delivery processes, policy availability and implementation process. Availability of ICT standards and measurement criteria should enhance leadership styles which transform the environment in which ICTs are being utilized both for administrative and delivery purposes. Specific learning behavior and motivation levels should link the relationship of students to pre-requisite attitudes, skills and knowledge of computer use.

2.7Challenges for Dual Mode and ODL for ICTs Provision of Administration services

Some of the challenges associated with the provision of teaching and learning facilities in a technology driven institution include the following; material development, production and distribution, assignments and examinations submission and checking for results. Research work of students and lecturers, collaborative projects, library and media usage should be enhanced to support on campus and off campus students with up to date information. Different thoughts about teaching space, security concerns of databases plus both hardware and software is critical as data and important information can be lost hence the need for physical protection devices, operational security, system backups and guarding against viral infection (Boot sector, document, network or any other source).

In a report on Challenges facing ICT integration in Kenyan schools the following contributions were revealed. While ICT continues to advance in Western and Asian countries, African countries still experience a lag in its implementation, and that continues to widen the digital and knowledge divides. In a recent study by Kiptalam et.al (2010), it was observed that access to ICT facilities is a major challenge facing most African countries, with a ratio of one computer to 150 students against the ratio of 1:15 students in the developed countries. Whereas results indicate that ICT has penetrated many sectors including banking, transportation, communications, and medical services, the Kenyan educational system seems to lag behind. Saturday November 12, 2011 "Challenges facing ICT integration in Kenyan Schools" Pedagogies of Flexible learning supported by Technology, Many African countries have not been able to employ teachers and provide resources to keep up with this demand. Studies have shown that there are disparities in the availability of ICTs and the motivation levels are affected by quite a lot of factors ranging from psychological to the organizational influences. The literature showed that ICT diffused rapidly in developed industrialized countries, but slowly in developing countries, which led to the ICT gap, or digital divide between developed and developing

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countries and most Arab countries still have a long way to go before being able to fully realize the benefits of ICT tools (Gholami et al, 2004; Aladwani, 2003), that is because of insufficient ICT infrastructure, governmental policies, small size of companies, lack of ICT/Enterprise resource planning experience and low level of ICT maturity, these factors seriously affect the adoption decision (Huang & Palvia, 2001). According to Straub et al, 2000; Huang & Palvia, (2001), Robertson & Barrar, 1992; Hughes & Clark, 1990)argued that the most important factors that determine ICT diffusion process in developing countries include social and cultural beliefs and economic factors.

3. Methodology

The research methodology adopted was influenced by the mixed methodology philosophy (quantitative and qualitative paradigm) and the descriptive/exploratory design was used in soliciting data from a sample of 100 lecturers, tutors and students in Harare universities in Zimbabwe. The mixed methodology of the quantitative and qualitative research approach guided in data collection, presentation and analysis processes. The descriptive research design, instruments and simple random sampling methods chosen had attributes of the mixed methodology. Studies by Strauss (1990) indicated that quantitative methods are based on content analysis, comparative analysis, grounded theory and interpretation On the other hand the exploratory and descriptive survey techniques were used because they went beyond description to model empirically the social phenomena (phenomenological and ethnographical).

The researcher carried out the research in four (4) universities, thus one (1) state and three (3) private in Harare the capital of Zimbabwe and they offered single, dual or ODL modes of delivery. Two questionnaires were designed and developed by the researcher and administered to a sample of 100 lecturers and students in proportional levels because staff and student complements of these universities varied. An effort was made to highlight the measures taken in order to ensure validity, reliability, triangulation and ethical considerations of research instruments. The pilot study of universities under study was organized through Internet search, observation and discussion with key informants in the four universities so as to validate the instruments. The major reasons for the pilot were inter-alia: to provide extensive background information on delivery and administrative functions in these institutions. The statistical methods used depended on a number of factors. The instruments went through a rigorous validation and reliability check through the whole process of development by the researcher and were piloted, validated and checked for their reliability. The researcher came up with university statistics and then developed instruments according to the target sample which depended on the faculties or departments in each of the four universities. The instruments followed a review of similar instruments in the literature (Baron & Goldman, 1994; Queitzsch, 1997; Roblyer, 1994; SEIRTEC, 1998; Smith, 2002; Topp, Mortensen, & Grandgenett, 1995; Vagle& College, 1995; Tuckman 1978; Leedy 1980; Borg and Gall 1989). Generally, items in all of them were grouped around topics highlighted in the literature review. The researcher delivered the instruments but also engaged competent research assistants for follow-ups and morale building of the 100 respondents. The researcher collected and coded data and then used an analysis of frequency tables, graphs and other statistical values that were required for presentation and easy interpretation of findings.

4. Implications of the Study

Information and communication technologies are beginning to have an impact on curriculum and classroom/lecture room design in each of the four universities under study. However there is a lot still needed to transform the traditional lecture room design and curriculum delivery methods to those where ICT will be a necessity. The use of the information gained during this research will drive organizations and individuals towards differing solutions in response to the needs of their students and learning communities. It is important that educators and administrators collaborate and learn from the mistakes, discoveries and best practice from other universities and researchers. There is much to learn from each other and much to gain for students. It has also been noted that where rigorous examination systems and prescribed learning outcomes control the curriculum, it is much harder for innovative use of technology in the curriculum to occur

5. Findings, Recommendations and Conclusions

The area of ODL has proved to be an almost universal one and the mode of delivery which is very effective is the one which makes use of the available technology which processes, stores, transmits data or information and communicates with end users in various organizations. This research revealed quite exciting findings.

There are a lot of adult learners who are in the universities who have various responsibilities and need flexible learning programmes.

- Knowledge of ICTs was lacking from many of the respondents thereby militating against their full utilization
- There was little infrastructure and physical facilities like rooms to house considerable number of computers for use by students. Most libraries did not provide alternative learning materials apart from voluminous text.
- Utilization of computers on average was very low and the use of software packages showed that most respondents only had minimal skills and competencies in the basic Ms Word MS Excel and probably Internet Explorer through Internet and email.
- Prohibitive costs and possibly the dollarization in Zimbabwe since 2009 made it difficult for students to continuously use Internet hence lost on valuable knowledge.
- Communication between universities and their clients was poor as evidenced by the mode of communication like newspapers, letters, notices, circulars, sms and worse still word of mouth. The last mode of communication is not supposed to dominate but can be used sparingly to augment technology based modes of communication.

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- Most respondents did not "trust" technology based transfer of information as there were cases of no feedback. Students outside Harare complained that they could send their assignments online to universities but there was no feedback. A greater number had to send another hard copy and administrative personnel were not competent enough to reconcile the two worlds. Online registration is never done for example at ZOU which developed a website long back. Students would rather not download application forms but make an expensive trip to Harare to manually complete the details.
- There is no curriculum except subjects on offer or learning materials found online. Students fail to have downloaded materials or receive website addresses from lecturers and this also denies flexible use of this resource anytime in their learning processes.
- There is no clear national policy on ICT in ODL programmes hence little integration of technology in the development or use of study materials. The use of multimedia is very limited as most lecturers did not deliver presentations using ICTs. Most universities the world over whose students has a section of their time off campus rely mostly on interactive materials from ICTs.
- The research findings highlighted some of the challenges facing institutions and affecting ICT take up such as lecturers' lack of ICT qualifications, limited time and time table restriction, expensive hardware and software, competing demands on scarce budgets, lack of creativity and unwillingness to change and difficulties in linking ICTs to the curriculum.

5.1 Recommendations and Conclusions

Since more and more adults are involved in advancing their competencies at workplace or in society there is need for universities to create flexible learning programmes which embraces ICTs.

- University personnel should be highly qualified, trained through workshops or degree programmes. They should have relevant knowledge and competencies in using ICTs to improve and bring variety in teaching and learning processes.
- Government participation in reducing duty on ICTs is welcome but it should improve the infrastructure at a national level so that technology can be accessed even in the remotest part of the country to enhance socio-economic development. Internet cafes should capitalize on economies of scale by reducing their fees and also contribute in educational programmes in universities like one café Gossip Internet Café which partnered with Speciss College in Harare.
- Most university websites should be updated so that they become easy to access, interactive and students could download study materials. send assignments, check for examination results, pay fees, and even interact with a lecturer. (The UNISA model). ZOU-Online should lead the pace and other universities could use that model
- University curriculum and learning materials should be found online because the CD-Roms students receive for example require certain type of operating systems to open, this may not be available near the student. Make it user friendly and makesure students get website addresses so as to give focus in the required Internet searches.
- Service providers like Econet, Telecel and Netone should reduce costs associated with ICTs as government has put in place a deliberate policy of removing duty. This will enable access to the internet especially with t\use of dongles which are portable and very user friendly but very expensive to use.
- Greater effort should be put in enhancing ICT policy and integrating technology in the designing, production and distribution of study materials and lecturers should be encouraged to use the state of the art technologies to improve delivery and maintaining learner interest.
- Budgetary allocations should be based on development of ICT infrastructure in the universities under study as well as subsidising costs of ICT technology like laptops (ZOU Harare example) Theresearcher furtherrecommended that a comparative research could be conducted on the impact of ICTs on learner productivity in universities applying the single, ODL or dual modes of delivery.

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