AN ASSESSMENT OF THE EFFECTIVE ADOPTION OF ELECTRONIC LEARNING TECHNOLOGY IN SELECTED AFRICAN COUNTRIES

ODINE, Maurice
Department of Mass Communications, Gulf University for Science & Technology
Hawally, Kuwait

ABSTRACT

The paper addresses e-learning and new information technology in Africa. Hence, it reviewed information, communication, and technology (ICT) and e-learning to reflect current and future e-learning initiatives. Methodologically, secondary sources included books, magazines, journals, and newspaper articles for analysis and interpretation. Meanwhile, the two-step flow and uses and gratifications provided a theoretical foundation. Arguments included the relationship between culture and digital age regarding online resources; ICT use and prevalence in rural communities; plus e-learning projects for teachers. Technology-wise international partnerships have been formed, such as Aluka-Ithaca, World Instituto Tecnico Alessandro Rossi (ITIS), United Nations Educational, Scientific, and Cultural Organization, Hewlett-Packard, Microsoft, German Academic Exchange Service, and Zambia/Ghana/Scotland Health Multi-Link. Furthermore, e-learning databases have enabled teachers to establish relationships essential to collaboration with peers within and outside Africa. Meanwhile, the Yaoundé (Cameroon) e-learning center is to build e-learning capacities in Africa. With the advent of emerging technology, teachers are urged to integrate e-learning into education.

Keywords: eLearning, Technology, Communication, Education, Africa.

1. INTRODUCTION

According to Mor Seck¹, director of the Senegal Global Learning Centre (under the auspices of The World Bank Global Development Learning Network), affirms that ICT is stands to enhance education in Africa. The director adds: ‘We have agreed that the future of education and training will be different from lecturing in a university amphitheater,’ says Seck. ‘The future has to involve digital technologies as a way to manage mass education.’

In Nigeria, Anunsi (2008) works at the Society for Promotion of Education and Development (SPED). Eager to broaden its capacities to deliver quality educational programs, SPED has partnered with New Brunswick Community College (Canada) to explore mutually beneficial technological ventures. The project is consistent with Nigeria’s Universal Basic Education (UBE) program. The UBE’s goal is for 50 percent of the teachers to become computer literate. Each centre is, therefore, charged with training one senior, and one junior teacher. Intel (world’s largest computer chip maker) has trained 25 million teachers from select

¹ www.elearning-african.com,
schools, colleges, and institutes across Africa. They include Kenya Education Staff Institute (KESI), Kenyan Institute of Education, and the Africa Centre for Math, Science & Technology Education. Andre Christian, Intel Education Manager for sub-Saharan and South Africa, expresses the corporation’s intent: ‘Intel wants to extend the reach and impact of teachers. We believe this initiative will change the way teachers plan and execute their lessons in a profound way.’ The ‘Intel Teach Program’ has contributed significantly to e-learning in South Africa, Nigeria, and Egypt.

Mwale (2010) writes about Open Educational Resources (OERs) started in 2002 by the UN Educational, Cultural, and Scientific Organization (UNESCO). The theme of OERs was ‘Open Courseware for Higher Education in Developing Countries,’ and funded by the William and Flora Hewlett Foundation. Zulu (2010) welcomes OERs, but warns that institutional stakeholders must understand how teachers locate and use e-learning materials in order to ensure their fullest potential for improving school curricula.

Mwale reports on SchoolNet Zambia, a part of SchoolNet Africa with operations in 35 countries. SchoolNet Zambia has established a Technical Services Centre at Matero’s Boys Secondary School in Lusaka. SchoolNet plans to transform Zambia’s educational system from an industrial model (learning by assimilation) to a knowledge-based model (learning by participation) to prepare youth to effectively enter a global economy equipped with ICT skills. Partnerships have been formed with the School of engineering at the University of Zambia. Mwale (2010) emphasizes that, ‘There is a need to provide recommendations for how stakeholders can develop new mechanisms within which quality assessment and validation of OERs can be undertaken.’

Professor Tim Unwin of the University of London, conducted a study of African Learning Management Systems (LMSs). Unwin identified a number of problems affecting the development of education and training in the continent. Survey respondents reported infrastructural obstacles; problems with Internet connections; lack of trained e-learning and ICT staff; users are limited to Moodle, Sakai/Vula, and Blackboard; 25 percent of respondents received two hours (or less) of training; the need for considerable ICT investment.

2. AFRICAN VIRTUAL UNIVERSITY

The core of ICT in Africa is the African Virtual University (AVU). AVU is a Pan-African Intergovernmental Organization established in 1997 by The World Bank. AVU is headquartered in Nairobi (Kenya); there is a regional office in Dakar (Senegal). AVU’s mission is to facilitate Open Distance and E-learning (ODE) methodologies in African schools, institutes, and universities. AVU runs the largest open distance and e-learning network in Africa, operating in 27 countries across the continent. Currently, AVU provides ICT support and e-learning materials to 50 African universities. By 2011, AVU had delivered 3,500 hours of courses and seminars to about 18,000 students. Today, more than 1,000 full-text journals and catalogs can be accessed online.

Diallo (2008) is passionate about enrollment problems at African universities. The author observes that African universities have the lowest enrollment when compared with universities in, say, India, the United States (US) or Europe. Diallo reasons that limited physical space and controlled admissions are the cause of low enrollment in Africa universities. ‘ICT is therefore offering an alternative to delivering courses and this is a great opportunity for Africa and Africans to increase access to higher education,’ Diallo notes. Wolff (2002) states that distance education is much less expensive.
2.1 University NComputing

NComputing is an e-learning project at Nkumba University (Entebbe, Uganda) made possible by a grant from Intelligent Solutions Corporation. The latter has introduced NComputing that creates ‘virtual’ desktops for as many as 30 simultaneous users. The ‘virtual’ device has no CPU (Central Processing Unit), memory, or movable parts. Instead, the software is made to work with Windows and Linux. Each student’s monitor, keyboard, and mouse are connected to a shared PC through a reliable access device. From a cost perspective, buying one computer (PC) instead of 30 is an advantage to Nkumba University, which now has e-learning and ICT capability to offer online courses.

2.2 African Leadership ICT Program

The African Leadership ICT program has been adopted by the African Regional Action Plan on the Knowledge Economy (ARAPKE) network. It is significant because it was adopted by the African Union conference of ministers charged with developing and promoting Communication and Information Technologies (CITMC) in Africa. In this respect, the ministers have urged the Africa Union and the UN Economic Commission for Africa (Nairobi) to expedite the implementation of ARAPKE flagship ICT projects. ARAPKE is to develop a group of ICT leaders who would become change agents in their respective African countries and to be catalysts for ICT regional cooperation. The organization is also to raise the level of awareness of e-learning and ICT in Africa which includes training of future ICT leaders.

3. LITERATURE REVIEW

3.1 m4Lit Project

The Shuttleworth Foundation in South Africa has figured out a way to make teenagers interested in reading and writing. The reading/writing project is timely because South Africa is short of books. In 2006, half of the households in the country did not possess a single leisure book. Books were in short supply in schools and homes. However, South African teenagers have mobile phones. As a matter of fact, 90 percent of urban teenagers have mobile phones.

There were poignant questions: Could mobile phones deliver books to teenagers as they do in Japan? Could teenagers use their mobile phones to write texts longer than simple chat messages? To explore these questions, the locally owned Shuttleworth Foundation set up a project using mobile phone text messages to enhance literacy. The project commissioned Kontax, the world’s first m-novel published in English and Khosa. What followed was the publishing of the teenage mystery story online and on Mxit, the country’s most popular mobile instant-messaging platform. The pilot phase of m-novel ran between August and December 2009, developing the story, running competitions, and conducting research.

Consequently, Steve Vosloo’s team published their story on mobile phones with very little time for research. ‘We chose the company, Clockwork Zoo, which already had a writing team, and took on development workshops with teens in Langa and Khayelitsha, two low income settlements in Cape Town,’ Vosloo admits. During the workshops, the teenagers told the team they would like to read a mystery story about love and suspense. During the first three months following publication, over 7,000 teenagers read the story on their mobile phones; overall readership reached 17,000! Dotty, a 16-year-old interviewee, gave an opinion: ‘It’s

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http://www.kontax.mobi/
great. For me, it’s really hard to pick up a book to start reading. But I don’t mind reading on my phone.’

3.2 Rural Internet Kiosks

A majority of Africa’s population lives in the rural areas. Urbanites have reception capabilities for television and radio signals. They have Internet connections, too. Although urban areas encounter sporadic electricity blackouts, most of the rural areas do not even have the ‘bulb’ version of light. It is not that the rural population is disinterested in information technology. It is simply because there is no energy/power to bring technology to them.

This time, the answer is from within the continent. Intersat Africa, a leading provider of satellite-based data solutions, has undertaken installing Rural Internet Kiosks to underserved rural corners of Africa where physical and financial conditions are impediments. Kiosks are independent, free standing booths designed to work on solar energy and other forms of renewable energy using satellite connectivity provided by Intersat. They are manufactured and assembled in a ‘knock down’ format, which makes it possible to easily disassemble and transport them, and to reassemble at another rugged location. Zambia, Rwanda, Kenya, and Nigeria are among the countries where Kiosks are used in rural areas.

Jitu Patani, project manager of Rural Internet Kiosks, pronounces with pride that the driving force behind the idea was to make information attainable for communities with no access to computers or the Internet. Patani continues, ‘Our vision was to design a product that would help bridge the ‘info rich’ and ‘info poor.’ Using WIFI, Kiosks can scan, print, or use mobile phone capabilities from any geographic area.

4. ELECTRONIC LEARNING AFRICA CONFERENCE

The e-Learning Africa Conference is the continent’s premier annual get-together on e-learning and ICT. It is the key-networking event for practitioners and professionals from Africa and all over the world. The conference provides unique opportunities to showcase and review proposals that stimulate thought and discussion on e-learning and ICT.

The 2011 conference featured a presentation by Daniel Lugudde Kakinda associated with SchoolNet Uganda. Kakinda discussed the integration of 21st Century pedagogy into sexuality education in a case study of the WSWM (World Stars With Me) program, which has made the topic more engaging for Africa’s youth. Another presenter, Yasser Alaa, head of iEXPRESS magazine committee on iEARN-Egypt, showed ten winning photographs at the 2nd e-Learning Africa Photography Competition. Previous e-Learning conferences were held in Addis Ababa, Ethiopia in 2007, Nairobi, Kenya in 2008, Dakar, Senegal (2009), Lusaka, Zambia in 2010, and Dar es Salaam Tanzania in 2011.

Cotonou, Benin, was the venue for the 2012 e-Learning Africa conference, which met from 23 -25 May, and attracted 1,500 participants from 66 countries. The 2013 conference was in Windhoek, Namibia.

In 2012, the conference discussed survey findings in which about 500 African teachers and ICT practitioners participated. Referring to the report, Angwin (2012) suggests that, widening access to reliable information technology is key to helping Africa develop educationally. The author recognizes that, ICT access in schools has increased, chiefly because more citizens use information technology such as mobile phones.
4.1 Emerald InTouch

Emerald InTouch is a new platform that serves as a personal web space to support e-learning and networking. It enables users to use a variety of web 2.0 devices, including wikis, blogs, RSS (Real Simple Syndication), and group/community learning. In addition, the platform provides a forum for conversations around the continent. A key feature of the platform is that, users are able to have customized versions that are compatible with respective e-learning programs and research.

Broug (2008) provides two reasons for the program. ‘We wanted to increase access to the content, but we also wanted to encourage more African researchers to publish in journals,’ the author says. Broug explains that InTouch is eager to promote e-learning in Africa, and in particular, to provide OERs for scholarly research to be considered for awards in engineering and public sector management. InTouch is a sustainable e-learning model that is described as part of a blending strategy. It is a model used by many universities and one that provokes debate about education among researchers, students, and academicians. Many InTouch users may access content online. All they need is a name and e-mail address. Upon logging on, users are able to construct communities of e-learning, blogs, and wikis.

Universities that wish to take advantage of the platform receive the technology at no cost, including pedagogical orientation and integration e-learning. Students may also use their mobile devices, especially where geographic dispersion is a problem. Mobile devices further make it possible to upload or access content on the Internet. Broug (2008) underscores, ‘We built a mobile dimension for collaboration, for conversation and dialogue that will help people learn.’

5. METHODOLOGY

The paper is to review incorporation of e-learning and information communication and technology (ICT) activities in Africa’s education. Of interest is the prevalence and use of these technologies and their application to teaching and learning in an era of new information technology. The objective is to complete a document that may serve as a critique for ongoing initiatives or reference to implement e-learning activity. Secondary sources were consulted. These included books in library holdings, magazines, journals, and newspaper articles. These sources provided the basis for analysis and interpretation of the material under investigation. Furthermore, two-step flow and uses and gratification provided a theoretical foundation for the analysis.

The paper addressed five topics. The first topic examined university e-learning activities in which more than one African university participated. The second topic looked at e-learning and ICT training for teachers. The third topic assessed e-learning success stories. The fourth topic reviewed e-learning activities initiated solely by African countries. The fifth topic appraised e-learning partnerships with international organizations, corporations, and foundations. And sixth topic six gauged the future of e-learning in Africa.

To address the first topic, it was necessary to trace the relationship between culture and digital age, and to what extent online library resources have improved education. On the second issue, the paper looked at integrating information, communication, and technology (ICT) rural endeavors, particularly in enabling farmers determine prices for agricultural products or fish. The third topic reviewed the use of ICT projects crafted for teachers’ use, along with milestone to incorporate virtual computing. Topic four surveyed e-learning projects initiated entirely by Africa and for Africa. Topic five considered international ICT and e-learning initiatives serving

African nations and aimed at enhancing health education. And topic six gauged the future of e-learning in Africa.

6. FINDINGS AND DISCUSSIONS

6.1 Aluka-Ithaca Partnership

Aluka-Ithaca is a digital library project in partnership with Ithaca (US). Aluka is a Zulu word for ‘weave.’ The word reflects Aluka’s mission to connect resources with scholars through the digital library. The Aluka-Ithaca digital library is affiliated with over 100 contributing archives, libraries, museums, and universities. Siro Masinde, Aluka-Ithaca regional director, says, ‘The introduction has drastically changed our way of thinking, and a great deal of information can now be accessed at the click of a button.’

Kyama and Waititu (2008) report on one young woman who is delighted that Aluka has come to town. Her name is Jennifer, a Kenyan student who wanted to access online materials to complete school projects. Previously, Jennifer had to travel far away to libraries with relevant resources. And when she finds one, it is either closed or overcrowded. At times, the library lacked updated resources or data and was not organized. To Jennifer, the learning curve was frustrating and compromised academic performance. In fact, she even regretted having majored in cultural heritage. That was yesterday. Today, Jennifer can conduct research in her neighborhood thanks to digital libraries.

6.2 Coastal Oceans Research and Development Indian Ocean (CORDIO)

The coastal areas of Kenya are rural and rich in agriculture. Moreover, fishery is a part of the people’s occupation. But the areas have had their own share of inadequate education to deal with such essentials as farm markets to sell their farm produce and to secure orders. To address these inadequacies, the Coastal Oceans Research and Development Indian Ocean (CORDIO) was launched.

CORDIO works in partnership with the Suganthi Devadason Marine Research Institute (SDMRI) and Nikopings Folkhogskola School of Sweden/Swedish Program for ICT in Developing Regions (SPIDER). The project is described as empowering self-help groups in Kenya through ICT for better education and alternative opportunities for livelihood. Stephen Oluoch, CORDIO ICT director, alludes to the project goal as a collaborative intervention with women’s groups to unlock principal barriers and to give women an opportunity to exploit their potential through the use of ICT. CORDIO had been working with local fishermen for ten years and finally concluded that certain economic needs were unattainable. Today, and with the click of a mouse, the women are able to search the Internet for markets to sell their products.

Women’s groups in the districts of Mwamlongo, Karoyo, Wakunga, Lolarako, and Gazi receive instruction in Microsoft Windows, Word, Excel, PowerPoint, and the Internet. Project director, Oluoch, stresses that, ‘The objective of the project is to introduce ICT into a poverty-alleviation strategy as part of an adult education program to empower villagers. The goal is to support environmentally sustainable livelihood activities in order to help improve the standard of living among coastal communities.’ Kyama and Waititu (2008) remark that CORDIO has enabled women to close the digital divide.

6.3 Witar

WITAR is a product in Burundi that is intended to empower teachers. The ICT learning project is made possible by the World Instituto Tecnico Alessandro Rossi (ITIS), an Italian non-
government organization (NGO). WITAR owes its ‘raison d’être’ to a former ITIS teacher at currently chief executive officer at Eutelsat. The teacher donated a VSAT antenna to WITAR to connect the Burundian school to the Internet using a broadband. The antenna arrived in Ngozi in October 2004 to start the e-learning program for Lycée Technique Alessandro Rossi. WITAR ran a computer literacy and e-learning training program for Burundian teachers. Currently, the facility has 25 personal computers PCs in its LAN (Local Area Network), a few laptops, and a WIFI antenna that covers the school’s geographic area.

A VNC (Virtual Network Computing) connection gives another dimension to e-learning. With Skype technology, an Italian teacher’s display can be captured and projected on the wall screen, while teachers and students follow actions and repeat them on PC. An LMS, using Moodle\(^4\) brings collaboration between teachers in Burundi and their Italian counterparts at ROSSI. Both international ‘campuses’ are then able to interact.

6.4 Zambia/Ghana/Scotland Health Multi-Link

The project is to deliver nurse training in rural Zambia and Ghana in order to double health workforce to meet growing needs. In both countries, nurse tutors are scarce and recruitment and retention is problematic. And reliance on experienced tutors (new graduates) compromises quality training. The Multi-Link project gives access to shared learning resources and professional supervision. Multi-Link enables Nursing Training Schools (NTS) in remote areas to deliver nurse education, including continued professional development to improve evidence based nursing in two areas: Maternal and child health and Mental health. Project activities centre on building e-learning networks, piloting e-learning resources and activities between NTS, teaching ICT Champions to embed at NTS, conducting ICT assessment, and monitoring and evaluating virtual/actual exchange visits between participating NTS. Virtual project meetings are also held on Skype; Scottish and Ghana partners meet at Edinburg University’s e-learning suite.

As of November 2011, Multi-Link recorded substantial progress. Thus far, it had hosted a mini-conference on e-learning in southern Zambia, bringing together partners from Zambia and Ghana and Scotland; developed The Africa Knowledge Network (AKN), a virtual library portal; explored and utilized electronic systems for management of knowledge resources (Dropbox, Moodle, Huddle, AKN); distributed hardware and software to NTS in Zambia and Ghana; assessed four ICT Champions to manage computing needs at NTS in Zambia and Ghana; distributed a range of existing e-learning resources (CDs, DVDs, websites, e-publications) to participating NTS; provided two Articulate software license to Zambian partners to allow development of their own e-learning resources; developed two e-learning networks (one on mental health, and one on maternal and child health); and conducted formative project evaluation. Charles Turner, on leave in 2012 and volunteer nurse tutor in Kasama (Zambia), visited Edinburg (Scotland) to take part in activities of Edinburg University’s e-learning suite.

6.5 UNESCO-Hewlett Packard Brain Drain Project

UNESCO and Hewlett Packard (HP) have found a common interest in preserving the brilliant minds and expertise of Africa. They believe that the brains of Africa are crucial in developing Africans and the continent. Taking a lesson from a similar UNESCO-HP initiative launched in 2003 in South East Europe to alleviate brain drain in a region of eight countries, the

\(^4\) www.itangozi.org.moodle/
project establishes links between researchers who have stayed in their African countries and those who have left, connecting scientists to international colleagues and research and potential funding opportunities.

Teachers and students at participating universities work on major collaborative research projects with other institutions around the world. The Director-General of UNESCO, Koïchiro Matsuura, says of the project: ‘We trust that such projects and such partnerships will enable us to reduce significantly the devastating effects of brain drain on some of the weakest societies in the world.’ The project is in response to member states, which, over the decades, have suffered greatly from the emigration of skilled labor, including scientists, academicians, and researchers. The UN estimates that about 20,000 nationals of African countries leave the continent every year.

HP provides equipment that includes grid-enabling technologies, as well as local human resources to the universities. In addition, the company makes arrangements for training and support until the project is self-sustainable. HP extends institutions’ capacity by donating PCs, monitors, and travel to attend meetings and conduct research. UNESCO manages and monitors project activities, conducts evaluations, and prepares results.

UNESCO-HP has succeeded in several ways. It has developed web sites at participating universities. Databases have been developed and made available for research and to improve teaching. Teachers are able to collaborate with international colleagues to share and broaden their horizons. In the final analysis, it is anticipated that African professionals will, somehow, discover the benefits of working in Africa and contributing mightily to the continent’s development.

Africa’s e-learning has treaded rugged terrain in pursuit of acquiring and sustaining ICT materials for a 21st Century education for the children of the continent. It is evident that significant progress has been made. Nonetheless, much more remains to be done. As Karsenti (2005) asserts, Africa must find its path from teaching technology to teaching with technology. The author refers to the findings of a study in 120 schools by the Pan African Research Agenda on the pedagogical integration of ICT.

Researchers have determined that physical integration consists of making technological equipment available to teachers and students and promoting its use for occasional pedagogical needs. In this connection, physical integration is a process leading to the introduction and/or deployment of technologies in the institution. Such is the case in the Les Oiselets primary school and secondary school in Bafoussam, Cameroon, where teachers and students use computers, but only occasionally.

By contrast, the pedagogical integration of ICT into schools means the appropriate, habitual, and sufficiently regular use of ICT in order to produce beneficial changes in the educational practices and improve student learning. This type of integration implies the routine use of ICT in the teaching and learning process. In this vein, the pedagogical integration of ICT must, therefore, be understood as multiple interactive and communication channels. It cannot be reduced to mere physical integration. There are few examples of pedagogical integration of ICT in Africa, notably the Ecole Front de Terre in Dakar in Senegal.

Salcito (2010), too, is of the opinion that high-quality education is the foundation for success and growth. The author is an advocate for teachers, better curricula, and the ability for students to connect with one another and the world. Vice president of Microsoft Worldwide Public Sector-Education, Salcito directs the Partners in Learning (Innovative School Program) envisioned bringing technology to Africa’s education. The program is active in 24 countries throughout the continent, working with institutions and state-holders. From its inception in 2003, Salcito’s program has reached nearly 21 million educators and learners through tools and training. Furthermore, it has partnered with 30 technology and education entities to support the

Africa needs champions like Microsoft and HP if it is to continue with progress made. It should be able to build on the current achievements and add to them in the future. And since technology is an ever-revolving phenomenon, staying detached is a road to nowhere. Innovation must be the prime target, as exemplified by African teachers. In 2009, at a gathering in San Salvador, Brazil, there were 12 Africans teachers, among 50 others, who were declared regional winners at the Innovative Education Forum (IEF). They represented South Africa, Mozambique, Uganda, Ghana, Lesotho, Nigeria, and Mauritius. Yes, there are mighty prospects regarding Africa’s ICT and e-learning. But the prevalence of prospects must reflect technological vision in light of tough times ahead.

The tough times can also be called challenges. Vota (2011) provides conclusions of the study: Pedagogical Integration of ICT: Successes and Challenges from 187 African Schools. The findings reveal that ICTs are not used as a ‘way’ to learn. Instead, they are ‘what’ is taught. In other words, educators focus on initiating new users to the basic functions of the machine. For many, it seems especially important to understand these functions fully before proceeding to applying them to other learning situations. The data shows that many educators are convinced that, in order to use computers for learning, one should first be able to name the parts of the machine. Thus, there is a strong correlation between educators’ attitudes and uses of ICT in teaching and learning.

Another challenge stems from the fact that teaching ‘of’ (rather than ‘with’) ICT, which characterizes usage in African schools, is limited to demonstrating to learners how the computer functions, and occasionally through the presentation of certain tools that include word processing or spreadsheet software. Despite noting shortcomings, research findings portray that about half of the institutions subscribe to this mode of ‘pedagogical integration.’ Another drawback is that, although teaching computers may have its place in numerous regions of Africa where schools are the only venue for accessing and learning ICT (and where 75 percent of learners report frequent use of cybercafés), the approach to computers in schools is so limited.

There are, however, nuances to the generalization. Some learners are actively involved in gaining competency with ICT, rather than passively absorbing the subject matter as presented by educators. In so doing, they maximize opportunities to become engaged in the learning process. The challenge for learners is the recognition and pursuit of the premise that knowledge can always be complemented.

infoDev, a Commonwealth of Learning partner, completed a Survey of ICT and Education in Africa: A Summary Report in 2007, based on 53 country reports. The survey posed the following questions: How are ICTs currently being used in the education sector in Africa, and what are the strategies and policies related to use? What are the common challenges and constraints faced by African countries in this area? What is actually happening on the ground, and to what extent are donors involved?

The survey identified a number of challenges. First, there is a need to draw on input from donors, governments, civil society, universities, and the private sector in order to develop and sustain successful functional ICT programs. Second, the evidence suggests many countries and their donor agencies are frustrated and struggling to keep track of ICT/education projects over which they have no control, and about which they are unable to deduce lessons learned. Third, there is no consolidated information source as much data collection has already occurred, with results scattered across a number of publications and databases. One example, is the publication of Imfundo KnowledgeBank, designed towards a Strategy of Developing African Teacher Capacities in the Use of Information and Technology [PDF, 559k], and Mkusanyiko on School Networking (PDF, 635k), are no longer online.
6.6 Vision for University e-Learning in Africa

Steadily growing student populations, scarce resources for e-learning materials and overcrowded campuses present huge challenges for higher education in Cameroon. To deal with these problems, the United Nations University (UNV) and Vice Rectorate in Europe (VIE), plus an international consortium of university partners, have pulled together to implement ICT activities at the University of Yaoundé I. In this regard, the first of e-learning workshops was held in June 2011.

Teachers from various disciplines heard their counterpart, Ulf-Daniel Ehlers of the University of Duisburg Essen, speak about the imperatives of ICT and e-learning in higher education. Participants were drawn from other parts of Africa where e-learning has taken off. During the workshop, Speranza Ndege of Kenyatta University shared experiences on integrating e-learning into the university, while Tony Carr from the University of Cape Town demonstrated different learning modules, learning activities, and effective communication tools for an online environment.

Also responding to the lack of structured and formal training programs to help higher education teachers in developing e-learning competencies, the German Academic Exchange Service (DAAD) funds a two-year project at the Higher Teacher Training College (Ecole Normale Supérieure) in Yaoundé. DAAD’s goal is to create content, skills, and understanding of e-learning methodologies and techniques as a means to improve teaching and to provide better access and raise the quality of education. Particular target areas are: building capacities for e-learning in higher education, creating a repository for digital learning materials, course materials, lecture notes, and self-study materials available online to students.

7. CONCLUSION AND RECOMMENDATIONS

Education can be said to be the nerve centre for human development. It nurtures the mind and stimulates humans to explore avenues to improve their lot and that of the communities in which they live. For those who choose the option of formal education, it means following a particular course of study managed through a structured classroom. Thus, the essence of education depends on pedagogy.

With the advent of technology, pedagogy has taken a turn for good. Teaching is no longer centred on the teacher standing before the class and lecturing. Rather, it is integrated into instruction. The result is that ICT, coupled with e-learning’s unlimited opportunities of cyberspace and mobile technology, has ushered a new dawn designed to make significant contribution to Africa’s teaching and learning.

It is not, therefore, surprising that the continent has embraced e-learning and that schools, institutes, and universities are laying down priorities to this end. On their part, African nations have welcomed technology-driven education to become a significant part of learning, including digital libraries, OERs, and a virtual university whose charge is to collate Africa-based knowledge for the continent’s development. Africa is also blessed to have support programs thanks to such corporations as Hewlett Packard and Microsoft, Intersat Africa, the UN, charitable entities such as the William and Flora Hewlett Foundation and Shuttleworth Foundation, as well as international and regional agencies in their desire to promote African educational technology.

To proceed into the future, Africans must become champions of their own destiny. The so-called brain drain must not be an excuse. Africans can contribute to e-learning and ICT capacities in various ways, irrespective of geographic location. For instance, ex-students of Kumba Presbyterian Secondary School (KUPEXA) in the US have sent monetary contributions...
and on-line materials to their alma mater to strengthen e-learning for the past 20 years. As is the case with other donor agencies, the challenge is proper monitoring and LMS management.

And in view of the need to generate feedback on ongoing and plan future programs, the brains of Africans and supporting organizations have formed eLearning Africa. The latter brings to Africa, each year, teachers, technology experts, media practitioners, governments, corporations, and related entities to share ideas and learn from peers the quintessential e-learning pedagogy for their respective schools and institutions. The three-day conference also showcases modern computer hardware/software and other ancillaries to e-learning.

The time for blame is no more. Procrastination must be replaced with timely, pragmatic initiatives tailored to take advantage of modern technology. Meanwhile, planners, teachers, and other stakeholders must be vigilant to ensure that learning in Africa does not fall behind evolving ICT and e-learning skills. Teaching pedagogy must not be stagnant. In fact, it must continually adapt to technological advancement if it is to educate and graduate students who will be competitive in the global market.

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