Recurring issues encountered by distance educators in developing and emerging nations

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Recurring Issues Encountered by Distance Educators in Developing and Emerging Nations

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Abstract

This article explores a number of challenges faced by e-learning or distance educators in developing and emerging countries, provides a context for many of the challenges, and outlines some measures devised to overcome them. These educators must determine a sound rationale for employing online learning, recognize that technology is only part of the educational transformation process, address the lack of infrastructure and the cost of internet bandwidth and equipment, counter the cultural imperialism of courseware from Western nations, deal with limited educational resources, place greater emphasis on quality assurance systems and change negative perceptions of distance education, respond to the needs and problems of both students and faculty, access or develop up-to-date educational resources, and consider the implementation of mobile learning. The continued growth and success of distance education in developing and emerging nations will depend on the extent to which issues covered in this article are addressed as they bear on the quality of the learning experience provided to students.

Keywords: distance education, online learning, e-learning, technology, developing countries, emerging countries

Introduction

"Education can be the difference between a life of grinding poverty and the potential for a full and secure one; between a child crying from preventable disease, and families raised in healthy environments; between orphans growing up in isolation, and the community having the means to protect them; between countries ripped apart by poverty and conflict, and access to secure and sustainable development." (Mandela & Macal, 2002, p. A15)

Leaders in developing and emerging nations promote education as a means to improve their peoples and countries. “There are many reasons for the growth of distance education but none is as compelling as the hunger for learning felt by those who have been denied it for generations” (Dhamaraian, 2001, p.6). A number of recurring issues seem to emerge when developing countries attempt to implement a technological form of distance education or its many variations – e-learning, distributed learning, or online learning. This article provides an overview of key issues faced
by distance education in developing countries, describes some of the successful practices, and outlines potential measures that these educators could consider or try implementing. Note that many of these issues are not new (Muldurbin & Dege, 2001; L. Bunn, 2003; Lagardere and Perreault, 1988); they tend to be ongoing, with every significant, development, or paradigm shift in the education system. Also note that developing and emerging nations are not homogeneous. As each country displays different attributes pertaining to population, culture, language, social structures, politics, economics, development, resources, the use of technology, and so forth, the issues described below do not apply equally to every developing or emerging nation.

The Issues

Developing a sound rationale and vision for the distance education initiative. Government and institutional personnel in developing countries often decide to employ learning or online learning without fully realizing what it means for their students and their institutions. If students are still reading by candles and kerosene lamps, expecting them to learn online may not be realistic. Online learning is attractive to institutions that want to be perceived as being progressive; however, establishing online programs may not be the wisest use of scarce resources. It may be better to use limited funds to encourage mass-scale attendance, ensure students are well fed, and hire more tutors. Effectiveness, which they refer students face-to-face or via video conferencing system or procure online course material, are all the key ingredients in any educational system. According to Wagner et al. (2008), "The past decade provided strong evidence that misguided policies and funding for information communication technology (ICT) in education may fail to have the desired educational outcomes, while costing more than other educational interventions." Technology may not be the appropriate or only solution to an educational gruader. (Wells & Wells, 2007).

Some institutions and government documents are attracted to online learning because they think it will save them a significant amount of money and human resources. They frequently imply that distance education and technology are panaceas for all theills in their educational systems. Cost savings continue if a large number of students are enrolled (Riccacce, Garv, & Bidorsa, 2009) and fewer educational facilities are built, but institutions, tutors, course production teams, technical support personnel, and other human resources are still required, and they make up a substantial portion of the educational budget. According to U. Frizz, president of Thomas Edison College, "One of the biggest myths about online education is that it's cheap. To produce high-quality distance education courses, it's very expensive." (Silberstein, 2007). Distance learning should be about access, equity, and the distribution of quality products to a wide audience; cost savings are just one of the potential bene ts.

There are numerous legitimate reasons why governments and institutions should introduce technologies into distance education, such as "greater information access, greater communication via electronic facilities, the introduction of asynchronous and synchronous learning, increased cooperation and collaboration, cost effectiveness [e.g., by reaching different students and in [given] numbers], and pedagogical improvement through simulations, virtual experiences, and graphic representations." (Silberstein, 2007). The opportunity to offer those who are working full-time or have household commitments a second chance to improve their skills and further their education, regardless of age, gender, ethnicity, or social background (Wells, 2007). Distance learning may also be used to bridge the digital divide, to reduce the "brain drain" of individuals who
leve to study abroad, to broaden access to individuals who have had limited opportunity, and to spur social and economic development. Many distance education initiatives have been established to assist those who are poor and those who live in rural areas. However, despite the growth in information and communication technologies, inequalities between rich and poor, urban and rural, and male and female continue to exist (UCISA, 2008).

Educators in developing countries have employed distance education successfully to provide accreditation to teaching and health professionals, to inform rural villagers of career paths, to help farmers improve agricultural production, and to increase literacy. More recently, distance education has been used to facilitate an interest in local governance and to introduce e-governance. For many students, distance education provides a path to a better life: the more educated they are, the better jobs they will obtain, and the better they will be able to meet the needs of their families.

Recognizing that technology is only one component of the educational transformation, while shiny new technology appeals to politicians and educators alike, it should not be adopted unthinkingly or without careful planning. Wright (2007) identifies necessary conditions for the effective use of technology in a distance education setting:

- Decision-makers must identify the problem, the technology will address and the benefits the technology will bring to education and/or administrative processes.
- Educational and governmental bodies must be committed to the goals toward which the technology will contribute, and their strategies must be aligned with educational objectives and realistic timelines.
- Educational and governmental bodies must be aware that, as long as they are not connected, the needs of potential users must be identified and addressed.
- The selected technology must be effective for its intended use and meet the needs of potential users.
- The curriculum should be adjusted to accommodate the use of existing and possible future technological developments, and the technology should promote meaningful interaction between the learner and the learning material, instructors, tutors, other learners, and the community.
- Instructors must receive hands-on training on the use of the technology and its potential benefits to learning and instruction. They must learn to provide effective student support, and to conduct simple troubleshooting.
- Incentives should be provided to encourage instructors to get involved with the new method of delivery. The time and effort required to develop and support online courses must be recognized.
- Copyright policies should be adjusted, if necessary, to enable the conversion of existing materials into electronic media.
- The technology and content must be maintained, supported, and secured.
- Organizational policies and management structure must be adjusted to cope with flexible delivery methods, provide or e-learning assessment, support independent study students, and address issues such as security, plagiarism, ethical online behavior, and assist students who lack access to computer experience with the technology.
- Consideration must be given to how the technology and software will be updated in the future.
- Procedures for continuous assessment should be established.
- Educational administrators must be willing to review technological implementation plans regularly and revise them as necessary.
Planning is an important part of there will be unforeseen developments and challenges. Nonetheless, the important nature of planning and management does not diminish the need for deliberate strategies to implement effective technology-based teaching. (Mater, 2008, p. 271). The extent to which an institution adopts its practices and processes greatly affects the success of technological implementations. In one institution in Southeast Asia, computers were installed just two years ago, still covering them; by then, the equipment was obsolete, new software was required, and those who wrote for the equipment had moved on to other positions. As computer performance surges, books are obsolescent every 21 months. (Strong, 2007) and new software's develop to take advantage of this increased performance. Equipment specifications and implementation plans must be revised on a regular basis.

When distance education is being implemented, especially when it has a technological component, there is a need for leaders who are flexible, open to new ideas, and willing to make decisions. In many developing countries the decision-making process is flawed due to the involvement of decision-makers who have limited or no experience with technology, the type of education, and change management. Those who will be making significant decisions about technology must be made on a daily basis. They should have some experience with specific equipment or programs they are selecting. Be aware of the potential impact of the technology upon learning, instruction, and administrative systems, and keep abreast of emerging trends.

Institutes must put in place a clear, detailed plan for implementing technology in distance education. They must involve a stakeholder who has a common vision and shared ownership for the plan. (Lundy, 2003). Implementation plans are likely to fail if they do not involve stakeholders such as the department or ministry of telecommunications. If not, they imply that teachers will lose their jobs when courses are placed online. The plan must be updated continually to accommodate new information and communication technologies, via a dynamic yet flexible leader who must convincingly communicate the plan to all constituted. Funding is a key factor that is the main issue involved in implementing technology successfully in a distance education setting.

Despite the emphasis on the use of educational technology in this article, it must be recognized that developing countries continue to have success with paper-based and broadcast media forms of distance education as there are reliable and sustainable. (Healy & Reh, 2006).

Addressing the lack of infrastructure and the cost of bandwidth:

The lack of sustainable and accessible electrical and telecommunications infrastructure inhibits not only economic growth (Fassett, 2008). But also growth in the educational sector. In June 2007, Kenya's education minister, Professor George Saitoti, stated that only about 8% of the primary schools and 35% of secondary schools were not connected to the power grid. (Ngomo, 2007). Introducing e-learning to these schools will be a challenge. Alternative power sources such as solar and wind must be considered as well as equipment that uses minimal power or includes a battery generating devices. In Namibia, solar panels and wind turbines are being used to generate electricity to support internet services, computers, and servers in universities. This type of infrastructure lessens the burden on school infrastructure. (Fassett, 2008). Students who are provided computers, training, and support to more than 350 schools via a significantly discounted Internet wireless internet network, Affordable and reliable Internet would greatly facilitate the adoption of online learning.
In eastern and southern Africa, the cost of internet access can be 20 (per 40 times the cost in North America, as 80 percent of the internet traffic is routed through sub-Saharan Africa (World Bank, 2008). Asia and the South Pacific provide slower transmission rates than optical cable primary due to signal delays and narrow bandwidths. Furthermore, many of the satellite suppliers serving Africa and the South Pacific were launched more than 20 years ago and are aging. A terrestrial infrastructure backbone recently approved by the World Bank to serve eastern Africa, would substantially reduce costs (World Bank, 2007a). In addition, 3G Networks, Google, Liberty Global, and the HSBC Bank plan to launch a high-speed, low-cost network of 16 satellites which will enable the spread of locally generated content and e-learning, thereby encouraging social and economic growth in the developing world (BBC News, 2005). Once a robust link to countries beyond Africa is established, it would be helpful if a network of telecommunications and internet hubs were implemented in Africa. Seventy-five percent of e-mail and telephone messages between African countries are routed through Britain, or the United States (Nxor, 2007); thus, it can be expensive to communicate and use services such as Web 2.0 tools (e.g. videos, podcasts), and multimedia sharing services that may require large bandwidth. A fixed basic income line in Kenya costs US$156 per month and wireless internet service is US$263 per month (Bamberg, 2006). The high cost of internet access primarily explains why Africans combined only 1.6% of the world’s internet users in 2005 (Zafee, 2005), and 3.6% in 2008 (Association for Progressive Communications, 2008). Only 6% of the Latin American population had access to the internet in 2006 (Mahar, 2007). "Even if the infrastructure is somehow present, the operating costs have ensured that [the internet remains out of reach] for the bottom of the pyramid. Poverty, unsuitable economic maps, and per capita electricity play a role for the use of this technology even in the areas that are advanced in relative terms" (National, 2007, p. 4). The cost of bandwidth is relatively expensive for most people living in developing countries, and at least they potentially have access to it. This is definitely progress, because in 1996 only five countries in Africa were connected to the internet and now all are connected (Zane, 2008).

Once the telecommunications backbone is established, wireless systems could be additional to deliver services locally and to serve rural areas in which many marginalized and underserved people live. The developing countries have the advantage of learning from the experiences of other countries and are on leapfrogging. As a result, they have opportunities to develop their infrastructure, with the expectation that the cost of this technology will become significantly more affordable. An accessible and reasonably priced electrical and telecommunications infrastructure is essential if e-learning is to spread beyond the large urban areas.

According to Gross (2006), "the challenge in Africa from a governmental and regulatory perspective is what can and should be done to create an environment to encourage investment, both domestic and foreign, in the telecommunications industry. Perhaps governments should recognize that no one company has a monopoly for this service and that a healthy competition among wireless providers is nurtured. Governments need to ensure regulatory barriers that prevent the establishment of a healthy competitive environment and encourage investment (Thomson, 2008) or take a more activist view and ensure that all citizens have access to the internet at a price they can afford. Countries such as Tanzania have eliminated taxes on computer equipment and reduced concessionary payable by telecommunications companies. Liberia intends to follow Tanzania’s policies by "being custom during an important ICT initiative and equipment so as to enable Liberians have a more access to them." (Sufficiency Act 2008, Update, 2008). By connecting learning centres to the internet, Sri Lankan officials can introduce the web to local communities. Once the internet connection to learning centre was made, private companies can take the internet, connection from the learning centres into the local communities. These connections may
establish internet cafes which are “flourishing in developing countries such as Peru where more than 80 percent of internet users connect from collective spaces”, such as cyber cafes (Fernández-Maldonado, 2004). The money generated by the private contractors can be used to partially cover the cost of delivering the internet to the learning centers. By providing an internet connection to a learning center, the enabling local contractors to link to the connection, the contractors are able to provide a service that might have been unaffordable if they had to bear the entire cost of bringing the internet to the community. This type of government-private partnership is beneficial to all.

Bandwidth is not the only issue in the development of network infrastructure, ease of installation, susceptibility to interference, coverage, data security, and costs are also relevant. Murray University in Kenya considered using copper wire, optical fibre, wireless networks, and/or satellite signals to provide the connectivity it required. The National Open University of Nigeria decided to use Nigeria’s Communications Satellite (NIGCOMSAT) to link its main campus with its video conference facilities located in study centers across the country. Each institution had to carefully assess its infrastructure and learning needs, then determine a solution that took into account environmental constraints.

The infrastructure challenges in Africa are similar but not identical to those in Latin America and the Caribbean, where the infrastructure has slowly evolved in quality, reliability, and coverage. However, governments must set regulations that foster infrastructure development, increase infrastructure spending, and spend funds wisely on initiatives that will foster access to awareness. ’2004), Hypothesis of the type of infrastructure that is implemented is that it be designed to accommodate in the years of the distance education program (2000).

Obtaining equipment when funds are limited

When compared to the average wage, the cost of equipment can be expensive in many developing nations. Consider that $50 million of India’s 1.1 billion people still spend two dollars a day on household electricity, which is an economic barrier. Person-to-person communication is the dominant form for many telecall operators. (http://www.telecentre.org) provide services to local communities as they attempt to bridge the digital divide.

There are a number of low-cost computers that educators in developing countries can consider. These options are significantly less expensive than a used IBM ThinkPad computer, which can cost up to US$1800 in Brazil but only US$300 in Bangladesh. Computers are available through the One Laptop Per Child Project (OLPC, http://www.laptop.org), which are currently sold for US$100, even in developing countries. This type of infrastructure enables students in areas with limited electricity and network infrastructure may be nonexistent. As they consume 10% to 20% of the wattage of normal laptops, can generate their own power by using solar panels, solar panels, and hand cranks; use water and dust proof; and have very few moving parts. While the Intel C7 Atom PC (http://www.c7atom.com), priced at US$230 in US$750, may be best for a secondary school student, the OLPC laptop and IBM ClassmatePC are still the only low-cost personal computers. A Canadian company, InMoov.it (http://www.inmoov.it), has produced a US$300 Linux-based laptop for the developing world. Lenovo, which bought the IBM Thinkpad division in 2005, offers a US$199 computer to the 900 million people who live in rural China (McDunil, 2007). That sounds like a good deal until you realize that the average wage in rural China in 2006 was US$563, although it is increasing at a rate of 10% each year. Currently, there are over fifty initiatives that involve the use of low-cost

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computers to serve students in developing countries is a low-cost option. Despite recent downscaling of the management of the OLPC initiative, OLPC is credited with shining a light on the technology needs of those students and inspiring others to develop low-cost computers. Rather than purchase new computers, some countries such as Kenya, Namibia, Trinidad and Tobago, and Uganda took the option of obtaining refurbished computers from non-governmental agencies. Computers for Schools Kenya (http://www.ctsk.org) has provided refurbished computers to rural schools (Okoni, 2007). High schools in Nairobi receive donated computers from Canada, Great Britain, the Netherlands, Norway, and the United States, then repair them and sell residual data stored on previous owners' hard drives for software, and tests the equipment. This work is primarily completed by student interns and volunteers who acquire ITI skills that enable them to obtain gainful employment, however it is a number of challenges involved in refurbishing computers, including dealing with the compatibility problems associated with the wide variety of operating systems used, even slightly different operating systems. Educational institutions and governments must assess the true cost of the technology, not just its initial cost. In 2004, maintenance, software, and training costs must also be considered. Whatever the cost of information and communication technologies (ICTs), they are competing against food and health services for the limited funds of developing and emerging nations.

Countering cultural imperialism and addressing cultural diversity
Western courses bring Western values (Elmore, 2002). In many developing countries, particularly Africa, feel that they are losing to accept courses from Western societies when it comes to their culture. This practice is called cultural appropriation.

There are at least 6,912 living languages in the world, of which about 342 have more than one million speakers (Gordon, 2005). In Africa, where many countries have more than 20 languages or dialects, it may not be possible to develop print materials and courseware in a variety of languages. If the courseware is produced in one language, which should it be? Officially, the language selected is one from colonial times that complaints of cultural imperialism abound. Furthermore, it is a variety of cultural groups that are part of a national tradition that is best supported by lectures and group discussions. Other cultural groups are uncomfortable with the concept of colonial thinking evidenced by many development institutions, as they view it as a violation of their identity. For example, in an article describing the development of a distributed teaching in Bhutan and Nepal, Rennie & Morgan (2007) state: "...the concept of 'critical thinking' so highly regarded by Western academics, is anathema to the traditional Buddhist educational system..." and this actively works against the idea of student-centred learning that values curiosity, rationality, and creativity approaches to learning." If "A telemedicine project in Thailand failed not because of the high satellite communication costs, but because medical personnel in urban areas were reluctant to consult with those in rural areas. The technology was not able to bridge social barriers. The implementation of technology does not mean that culture and social barriers disappear, sometimes the barriers are magnified. Overcoming culture and social barriers, relativity to technology and its use can be more difficult than actually implementing technology;" in an effort to maintain an indigenous culture and to reach those who live in rural areas or on the street, presenting courses in local languages makes sense. However, if equipment
manuscripts for vocational courses are available only in a foreign language or business is conducted in a language such as Mandarin and English, it might be beneficial to expose students to these languages. If the need to have resources in a local language is paramount, groups of ten or more educators could establish a language-specific version of the University (www.wikiversity.org) that was founded by the Wikimedia Foundation to create and host free learning materials and activities. They also could consider using Jwlii (http://juli.org) which is easy to set up and does not require students to have an e-mail account in order to access the information on a wiki established by instructors.

Dealing with limited resources

Educators in developing countries are aware that external funding from international development agencies and corporations may not always be available, projects may not be sustained once the external funding has ended. Thus, educators need to collaborate across borders, especially regarding the development and delivery of courses (Nakukun, 2007) and should consider the use of open-source course management and delivery software (Wright, 2006) such as Moodle (http://moodle.org) and Sakai (http://sakai.org). Open source software offers potential to reduce the cost of the software while providing an emerging greater control over its destiny (Oppenhi, 2004).

Educators are increasingly realizing that the duplication of effort required to develop materials. The Commonwealth of Learning (COLE) recently, works with the eight countries of the Southern African Development Community (SADC, http://www.sadc.net) to develop training materials to enable teachers to enhance their professional skills through distance and open learning. Teams of writers from Botswana, Namibia, South Africa, Zambia and Zimbabwe developed the modules. Throughout the writing phase, content issues and the review of the materials remained the collective responsibility of all participating countries. Once the modules were developed, each country was able to adapt them to meet the needs of its people. The COLE has also initiated:

* the Virtual University for Small States of the Commonwealth (VULSIC, http://www.uel.org.uk/vulsic) - a collaborative initiative to develop and share courseware (Buick, 2007) and
* the WikiEducator (wiki.educator.org) - a collaborative initiative to develop and make available e-learning content for free by 2010.

With collaboration, the cost of a particular initiative to any one institution, agency, or country is minimized while the quality of the finished product can be higher than if only one institution or country undertook the development of the learning materials.

Developing and emerging nations could establish regional learning repositories that contain learning objects or digitalized learning activities that meet their specific needs as well as complement the contents of existing open-source learning repositories such as the Multimedia Educational Resource for Learning and Online Teaching (MERLO, http://www.merlot.org). If educators develop their own learning objects or online activities, they should ensure these are more than just electronic page-turners. According to Wright (2007a), the online learning activities should:

* engage and motivate the learner by including multimedia, role-plays, and simulations;
* demand that learners interact with the online material, with their peers, and their community by using the various socialization tools that are available on the web;
* encourage critical thinking, creativity, and problem solving;
* provide opportunities for online practice and knowledge transfer;
* offer timely, constructive, relevant, and frequent feedback; and
* provide links to resources beyond the content and the learner's communities.
Regional learning repositories are to be successful, educators must be willing to contribute some of their own funds and energy. They cannot rely solely on external funding from organizations such as the William and Flora Hewlett Foundation (http://www.hewlett.org/), support open educational resources initiatives designed to ensure access to knowledge and educational opportunities. The Teacher Education in Sub-Saharan Africa (TESSA, http://www.teessafrica.net) in Nigeria is an example of a successful collaborative effort that develops open educational resources and provides guidance to teachers. This initiative involves several international organizations and educational institutions, the African Virtual Open Initiative, and Resources (AVOIR, http://avoir.immagine.web.it), comprising 13 African universities, focused on developing free software that is appealing to African users.

Collaborating on course delivery and student support may be more difficult than collaborating on course development. However, the Association of African Distance Learning Centres (AADLC, http://www.aadlc.ac.zw), part of the Global Development Learning Network (GDLN, http://www.gdln.org), has worked individually and as partners to share knowledge and learning how to offer distance education. One of its priorities is the provision of effective and cost-effective support to distance learners. The partnership of 15 AADLC learning centres connects governmental, non-governmental, and development agencies, and private-sector individuals across countries via interactive videoconferencing and the Internet.

Distance educators in developing countries also need to explore the establishment of a cadre of tutors who could serve more than one institution. Companies in India and in many developed countries provide 24/7 on the tutoring and student support services. If there is a lack of specific content expertise or the number of students does not justify hiring full-time faculty at one institution, then institutions could consider collaborating on the provision of tutoring services. Collaborative efforts can address the challenge of limited resources and can be beneficial to all involved.

Working across borders can address the lack of educational resources and the need to introduce faculty to new instructional methods. Recently, the United Nations University (UNU) has collaborated on the deployment of e-learning in over 100 developing countries. In addition, the U.S. Agency for International Development stated that it plans to establish a virtual network that will enable institutions in Africa to collaborate with their American counterparts (Lindoy, 2008). Thus, the institutions will be able to partner on projects in education, economic development, food security, and health. According to Sibus Nkambule, director of the National University of Rwanda, the partnership will benefit African universities by “building the capacities of their graduate programs, introducing interactive teaching methods, providing training and mentorship opportunities for senior faculty members, and bringing more women into academic ranks” (Lindoy, 2008).

Placing greater emphasis on quality assurance frequently, face-to-face instruction is associated with quality teaching even if the instruction is poorly trained in both content and pedagogy. Conversely, distance education has been viewed as second-rate education that focuses on rote learning rather than problem-solving and is seen as a costly enterprise, especially when information and communication technologies are introduced. Parenton (2007) expresses a vision of distance education in the developing world. "Open and distance learning is regarded by students and parents as an education system, used to a shadow of education where it withholds its substance; it is an inefficient but cheap way of containing educational demand without meeting it." (p. 207). This view of distance education is widespread not only in Southeast Asia and Africa, but also to a lesser degree in developed countries...as this was a common attitude in the West until about twenty years ago (and some may say it is still prevalent in subject-specific areas)" (Rombe & Mason, 2007, p. 9). According to

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Professor Dharanapen, Vice Chancellor of Waseda Open University, said: "The mode of delivery, whether face-to-face or virtual, actually has little to do with the quality of education. What's more important are things like, is there a careful measurement of learning outcomes and if there is the university benchmarking its developments..." (Dharanapen, 2007). High-quality educational materials need to be produced by people who have a positive attitude towards change and care about what they are doing and how they go about it (Wright, 2006).

Those who are likely to make key decisions about technology and distance education are those who are highly regarded as "peers of influence" in their fields or universities. Those individuals may collect, assess and select technological solutions because technology is not yet part of their educational experience. (Wright, 2006). Technology is not the issue, and the individual people have about it; education should not only be exposed to the literature about effective distance programs, but must also see them in operation and speak to students whose lives have changed because they were able to access distance education courses. Increased awareness should improve attitudes towards the implementation of technologically-enhanced distance education.

One of the issues why distance education is not respected in some countries is the lack of quality assurance systems that continually measure the congruity of organizational goals with actual achievement; instructor training; course development; student learning interactions; student-support assessment; and paths of student success upon graduation (Wright, 2006). Also of concern is the lack of meaningful interaction that promotes higher-order thinking. Quality affects student achievement; graduation rates; the potential for students to obtain a job; or pursue further education upon graduation; the support of educational stakeholders; and the image of credibility the institution has within the community.

Various countries need to adapt systems for developing and customizing quality criteria for assessing distance education. They should not simply use those of traditional institutions; some of which do not address the peculiarities of distance learning systems. In some cases, staff who migrate from traditional systems to open and distance learning (DL) institutions, often with protectionist policies that may not help the DL institutions to achieve their overall goals. Especially goals related to accessibility, flexibility, and equity. Staff in new DL institutions in emerging nations must be introduced to attributes of DL that differentiate it from classroom teaching.

Quality assurance systems should have a higher priority when resources are limited; they often receive little or no funding. Distance educators do not need to develop their own standards from scratch; they can obtain existing standards and modify them for their environment. In any event, they should utilize the standards they are using and ask external reviewers to review their progress in achieving those standards.

Recognizing those who are likely to succeed and addressing student needs

Educational opportunities should be available to everyone. People who live on the street and in rural areas, as well as those in frontier communities, have a right to an education. However, when new programs and policies are established, government and funding agencies usually focus on completing graduation rates in determining whether funding should be continued and programs expanded. Since distance education programs may suffer from low completion rates (Rendu, 2007), it may be advantageous for project planners to consider who will likely be successful with distance education courses and actually offer programs that will meet the needs of these types of students. The results should yield high.
nomination rates thus attracting further funding that can be used to develop programs for higher-risk students.

Success online or off-campus students are likely to be highly-motivated, well-organized, skill disciplined, good time managers, supported by family and colleagues, able to tolerate ambiguity, flexible, goal oriented, and interested in using technology (Wright, 2008a). Post-secondary level students are likely to be more successful with distance education than primary students (Perroni, 2007). This does not mean that only these types of students will succeed, but rather that they are more likely to complete a certificate, diploma, or degree program.

Adult learners are particularly motivated if at the end of their studies they will obtain an accreditation, a salary increase, and/or a promotion. These will enable them to leave poverty behind and improve the lives of their families. Distance education seems to be ideally suited for those who have full-time jobs and family responsibilities, are disabled or have a child, are geographically dispersed, or are far away from home—for example, military personnel, embassy staff, missionaries, international volunteers, and refugees workers. These individuals recognize the need for access to education that is not limited by time and place. Distance education is also of interest to those who want flexible learning outcomes. If developing countries want to maximize their investment in distance education, they should take into account those students who are likely to make the best use of this form of educational delivery system and provide effective student support.

Students may need access to financial support, equipment and technological support, learning resources, and academic advising. A number of those student services may be provided in a virtual form (Brigham, 2004). In many cases, costs borne by the typical traditional institution, such as printing, are passed on to students who can ill afford an additional financial burden. In collaboration with the Canadian International Development Research Centre (http://www.cidrc.ca), countries such as Benin, Egypt, Korea, South Africa, and Uganda have established networks of partners to provide affordable access to information and to support students as well as to promote the use of ICTs for community development.

In addition to issues related to the cost of equipment, access to the Internet, lack of familiarity with technology tools, limited access to up-to-date and engaging resources, and the need for quality assurance systems, this has increased. On the other hand, students may face other concerns that must be addressed. Those non-salary may contribute to attrition rates that can be 10% to 20% higher in distance education than in traditional face-to-face instruction (Angello, Williams, & Negvig, 2007). Humans tend to be social beings who rely heavily on eye-contact, verbal cues, immediate feedback, and frequent contact with others. If these social factors are not addressed, distance education may lead to the feeling of isolation (Hillman, 2005). Students may feel the need to be part of a community. A community of learners. If educational technologies available to them do not provide opportunities for interaction, tutors, study groups, and the involvement of family and peers should be built into the program so learners do not feel isolated. It may be necessary to inform employers and family members about the long-term benefits of the education being sought and encourage them to support the learner. Students may want frequent contact with their instructors in order to obtain feedback that is timely, effective, and nurturing. The number of potential challenges facing students in developing countries is significant, but they can be overcome if careful planning is given to addressing their needs.

Dealing with faculty concerns

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Faculty may not support a learning system that is substantially different from the traditional, post-colonial, face-to-face institutional environment in which they were trained. The implementation of distance education may be impeded by faculty who have limited or no experience with distance education (Quaile, 2008). Their students may also resist learning from an electronic form of distance education (Anderson & McKelvey, 2002; Lavish & Mihm, 2003). They may develop teaching anxiety associated with the lack of training in new technology and instruction methods, the tension between allocating time to online course development and research, increased workload, and performance expectations in an unfamiliar learning and instructional environment, in which learning styles and constructive approaches may be emphasized. These faculty concerns are found in developing countries, such as Botswana (Wright, 2007b), as well as in more economically advanced countries such as Brazil (Porto & Borges, 2008).

Technical support is often lacking in developing countries, so the few individuals with technical expertise focus on network infrastructure and security. Faculty may try to learn how to install and maintain computers and software on troubleshooting problems that they and their students encounter (Wright, 2007b). Instructors also need to learn a variety of online computer classes (Smith, 2002) especially how to foster active learning (Moore, Fink, & Watson, 2007), build effective interaction from classes (Raschke, 2009), manage their time (Ny, 2006; Shi, Bok, & Magula, 2008), and write effectively (Thomas, 2001). Often overlooked is the need to inform instructors and students about copyright and intellectual property as well as to encourage them to question what they locate on the web and to verify web content. Governments and institutions should be encouraged to establish laws and policies that support the free exchange of information for educational purposes.

One of the major challenges faced by faculty is that they find it difficult to learn about technology in that they do not have easy access to it. Since 2006 the National Open University of Nigeria has provided laptops with general packet radio service (GPRS) and internet-enabled wireless technology in remote communication among its staff, especially the study centres staff and instructors on the main campus. The laptops are provided via a very flexible loan arrangement between the staff and the university management. Each instructor has a monthly airtime credit of US$38. Some institutions purchase large quantities of computers at reduced rates and provide their distance education instructors with the technology.

Students are a resource that is often overlooked when faculty training is being implemented. In general, young people tend to pick up technology skills quickly and can be used to assist instructors in learning computer skills and developing web-based materials (Wright, 2007b). If this is the case, faculty may need to develop a high resistance to learning from students which may be accomplished more easily in some cultures than in others.

To provide faculty with current information and skills pertaining to distance learning institutions and governments in countries such as Bangladesh, Ghana, Nigeria, and Sri Lanka invite consultants from international development agencies that are usually based in Australia, Canada, England, Germany, the Netherlands, Sweden, and the United States. If the consultants are not totally they may help them fill in their knowledge gaps and provide one-way "input or output”. But do not offer opportunities for participants to discuss how to accept what they have heard. For example, the learning mode in the West usually involves one instructor with a few students; this would be unacceptable in developing countries (Lentz, & O’Bradov, 2004). Developing country hosts should insist that the training sessions be interactive and allow time for reflection and the development of...
local solutions. Educators should be encouraged to obtain diverse views from reliable websites and blogs such as EDUCAUSE (http://www.educause.edu), Sheep's Web (http://www.sheepweb.com), and ZaLearn (http://www.zalearn.com). Educators should actively participate in organizations such as the MERLOT Africa Network (http://www.merlot-africa.org), that focus on the scholarship of teaching and learning using electronic resources.

Accessing up-to-date educational resources

Open educational resources and digitized print resources can help alleviate situations arising from the paucity of up-to-date educational resources. Sources of open courseware include the OpenCourseWare Consortium (http://ocw.mit.edu), which provides access to university courses from Argentina, China, Columbia, France, Japan, Korea, Mexico, the Netherlands, Saudi Arabia, the United Kingdom, the United States, and Vietnam. The Open Educational Resources Community (http://www.openeducationalresources.org) offers teaching and learning materials at the basic, secondary, and college levels. Items can be retrieved online and transferred to compact discs or memory USB keys for use in remote areas.

Accessibility and bandwidth are limited. In 2008, the South African Institute for Distance Education (http://www.sade.org.za) established Open Educational Resources (OER) Africa (http://www.oerafrica.org) to ensure that teachers use OER for higher education systems in Africa. The OpenCourseware (http://www.opencourseware.berkeley.edu) is a collaboration of higher education institutions that provides audio and video captures of lectures at leading universities. Most importantly, educators in developing countries need to overcome the “first-world hurricane” by downloading, localizing, and contextualizing materials they obtain from other sources (Wright, 2007a). If a course developed by another institution is not available in an open-source format, they must obtain permission to use it and then simply rework it by adding their institution’s name, logo, and contact information. The materials are not changed significantly and considerable time is saved. Educators may decide to localize material by summing up appropriate information, including local examples, or learning new course components. The OpenLearn Virtual Classroom (http://www.openlearn.org.uk), managed by the British Open University, enables users to download and remix course content. Distance educators may also contextualize the materials for a local audience by changing their content and examples. The African Virtual University (AVU, http://www.avu.org) seeks to provide world-class quality education and training programs in engineering and business in Africa as well as undergraduate and postgraduate academic courses. One of the major challenges is to adopt course materials developed in an efficient Western context to the educational environment in Africa.

According to Lou Sheng (2007), there are many universities and technology in Australia, material that has been adopted successfully must balance Australian, international, and African perspectives. It must allow students to reflect on the knowledge in their own countries, yet enable them to draw on expertise and experience from other countries (Wright, 2007b).

The Ordinary Digital Library (http://www.ordinary.org) or "The Internet in 3D" initiative managed by the University of Iowa enables people in developing countries to access recent information by using internet charges in struggling with limited internet bandwidth (Jeffrey, 2007). The initiative comprises more than 6.5 million web pages including the ordinary library of the University of California (http://openlibrary.org), Project Gutenberg (http://www.gutenberg.org) classic literature collection, 40,000 books, and 200 full-text journals. The materials are stored on Windows or Linux servers, costing as little as US$12,000 that plug into existing local networks. These servers provide access to information that now has 5,000 times faster than the satellite link that are used primarily in Africa and the South Pacific. They are currently located in institutions in Africa, Bangladesh, Haiti, and India. Institutions are charged an annual fee of US$200 for twice
Implementing mobile learning

Although implementing mobile learning is not a recent concept, educators have not previously encountered this method of delivery as an urgent issue for developing countries. As they try to implement mobile learning effectively, developing countries are also exploring the use of mobile learning as a tool to enhance learning. As we all know, the main purpose of mobile learning is to improve learning and to address educational challenges. However, there are several factors that must be considered before implementing mobile learning. These factors include the availability of mobile devices, the cost of mobile learning, and the need to ensure that the content is accessible to all learners.

A study by the World Bank found that in developing countries, mobile learning is a promising solution for improving education outcomes. The study found that mobile learning can be a cost-effective way to reach learners, especially those in remote or disadvantaged areas. The study also found that mobile learning can be effective in improving learning outcomes, especially in areas where traditional teaching methods have not been effective.

In conclusion, mobile learning is an important tool for improving education outcomes in developing countries. Mobile learning can be an effective way to reach learners, especially those in remote or disadvantaged areas. Mobile learning can also be an effective way to improve learning outcomes, especially in areas where traditional teaching methods have not been effective.

Conclusion

Despite the challenges described in this article, new institutions are emerging each year, existing institutions are expanding their open learning options, and enrollment in
distance education courses continues in both the developed and developing worlds. The continued growth and success of distance education instituted will depend on the extent to which issues covered in this article are addressed, as they do affect the quality of the learning experience provided to students. For those in developing and emerging nations, distance education is a promise of a better life, not just an enhancement of existing educational offerings.

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References


Wright, C. R. (2007b). Charting the way forward: Unpublished manuscript. GATVATA Vocational Institute, Kusia, Lumbur-Malaysia


