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Recurring Issues Encountered by Distance Educators in Developing and Emerging Nations

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Abstract

The 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 a greater emphasis on quality assurance systems and change negative perceptions of distance education; respond to the needs and norms 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 & Mbeki, 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" (Dhamraj, 2001, p.61).

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 educators in developing countries, describes some of their successful practices and outlines guidelines that these educators could consider or pre-rig an guiding. Note, that many of those issues are not new (Malek, M., & Liene, 2001; J. Bunn, 2000; Laggert and Peregrino, 1988); they tend to be ongoing with every significant development, or paradigm shift in the educational 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, economies, development, resources, the uses 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 implement online learning without fully realizing what it means for their students and their institutions. If students are still relying on 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 the limited funds to encourage regular school attendance, ensure students are well fed, and hire more tutors. Effective-nesses, which they invest students face-to-face or via a videoconferencing system or provide online course material, are still the key ingredients in any educational system. According to Weiss et al. (2005), "...the past decade provides strong evidence that misguided policies and funding for Internet communication technology (ICT) in education may fail to have the desired educational outcomes...while costing more than other education interventions." (p. 12). Technology may not be the appropriate or only solution to an educational problem. [Weiss & Weiss, 2007].

Some institutions, and governments, desire online learning because they think it will save money, and many resources. They frequently imply that distance education and technology are accessible to all the students in their educational system. Cost savings continue if a large number of students are involved (Linnick, Gamo, & Didora, 2003) and if fewer education facilities are built, but instructors, tutors, course producers, 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. Franks, president of Thomas Edison College, "One of the biggest myths about distance education is that it's cheap. To produce high-quality distance education courses, it's very expensive" (Silverstein, 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 benefits.

There are numerous legitimate reasons why governments and institutions should introduce technologies into distance education, such as improved information access; greater communication via electronic facilities; the introduction of asynchronous and synchronous learning; increased cooperation and collaboration; cost effectiveness (e.g., by reducing different students and in-structure expenses); and pedagogical improvement through simulations, virtual experiences, and graphic representations. (Sere, K.uga & Sarga, 2007). As well, the opportunity to offer those who are working full-time or have household commitments "to acquire additional training, to improve their skills, or to further their education regardless of age, gender, ethnicity, or social background" (Kagiso, 2007). Distance education may also be used to bridge the digital divide, to reduce the "brain drain" of individuals who...
leave no study abroad to broader access to individuals who have had limited opportunity and to pour 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 (Wilson, 1998).

Educators in developing countries have used distance education successfully to provide accreditation to teaching and health professionals, to train youth in various lifestyle or career paths, to help farmers improve agricultural production, and to increase literacy. More recently, distance education has been used to facilitate an interest in urban governance and to introduce new governance for many students, distance education provides a path to a better life. Older, more educated, they are, the better job they will obtain, and the better they will enable to meet the needs of their families.

Recognizing that technology is only one component of the educational transformation, while many new technology appeals to politicians and educators, too, it should not be adopted uncritically 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 administration processes.
- Educational and governmental bodies must be committed to the goals toward which the technology will be applied, ensure that issues regarding accessibility, equity and the objectives and realistic timelines are addressed, develop measurable objectives and realistic timelines, assign specific responsibilities to individuals and groups who will facilitate the change process, and provide the necessary resources.
- Key individuals, in collaboration with other stakeholders, must develop an plan to guide implementation.
- The selected technology must be effective for its intended use and meet the needs of potential users.
- The curriculum should be adjusted to make the most use of existing and possible future technological developments. 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, 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 must be maintained, supported, and secured.
- Organizational policies and management structures must be adjusted to cope with flexible delivery methods, provide quality learning assessment and support independent study students, and address issues such as security, plagiarism, ethical online behavior, and assist students who lack access to junior 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 aspect where there will be unforeseen developments and challenges. Nevertheless, the rapid growth of technology and management structures diminish the need for deliberate strategies to implement effective technology-based teaching (Miles, 2000, p. 2-21). The speed at which an institution adjusts its processes and procedures greatly affects the success of technological implementations. In one institution in Southeast Asia, computing systems were installed over two years ago still require them; by then, the equipment was outdated, new software was required, and those who asked for the equipment had moved to other positions. As computer performance improves every 21 months (Strong, 2007) and new software is developed 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 education sector is driven by leaders who are traditional in their approach, and often decisions about technology should 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.

Institutions must put in place a clear, detailed plan for implementing technology in distance education. They must involve all stakeholders, including people with vision and shared ownership for the plan (Lundy, 2003). Implementation plans are likely to fail if they are not involved stakeholders such as the department of telecommunication or if 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, and a strong yet flexible leader must be identified to implement the plan to all constituencies. Distance education must be an integral part of the national curriculum.

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 these are reliable and sustainable (Lewis & Rigby, 2006).

Addressing the lack of infrastructure and the cost of bandwidth:

The lack of a sustainable and accessible electrical and telecommunications infrastructure inhibits not only economic growth (Wallsen, 2005; Fay & Marison, 2007), but also growth in the educational sector. In June 2007, Kenya's education minister, Professor George Sihata, stated that almost 90% of primary schools and 35% of secondary schools were not connected to the power grid (Nigro, 2007). Introducing a transition 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 electrical generating sources. In Namibia, solar panels and wind turbines are being used to generate electricity to support internet services, computers, and servers in rural areas. The type of infrastructure that provides schools with the necessary equipment to provide computers, training, and support for more than 100 schools via a significantly discounted flat-rate wireless internet network. Affordable and reliable electricity and communications would greatly facilitate the conceptualization of online learning.
In southern and eastern Africa, the cost of Internet access can be 20 times higher than in North America, as 80 percent of the Internet traffic is routed through South Africa. The World Bank (2007a) states that the cost of satellite access is higher than that of fiber-optic cable primarily due to the large distances and optical interference. A number of satellites supplying signals to Africa and the South Pacific were launched more than 20 years ago and are now in a retirement phase. A new terrestrial infrastructure backbone, recently approved by the World Bank to serve eastern Africa, would substantially reduce these costs (World Bank, 2007a). In addition, a $3b network, 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 local content and e-learning, thereby encouraging socially and economically positive growth in the developing world (IBBC News, 2005). Once a robust telecommunications network is established, it would be possible to establish a network of telecommunication centers or community hubs that are implemented in Africa. Seventy-five percent of e-mail and telephony messages between African countries are routed through Britain, or the United States (Nkor, 2007); thus, it is expensive to communicate, and use services such as Web 2.0 tools (e.g., wikis, podcasts, and much more) as services that may require large bandwidth. A fixed broadband connection is expensive in Kenya, costing US$90 per month, and wireless Internet service is US$65 per month. (1) Internet access pricing explains why Africans continue to remain only 1.5% of the world’s Internet users in 2005 (Zaleta, 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 somewhat present, the pricing has ensured that the Internet remains out of reach for the bottom of the pyramid. Poor service, enigmatic connection speeds, and limited bandwidth supply has bottlenecked the ability of the Internet even in the areas which are advanced in relatively terms” (Ndoyun, 2007, p. 3). The cost of bandwidth is relatively expensive for most people living in developing countries; 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 of them are connected (Zenex, 2005).

Once the telecommunications backbone is established, wireless systems could be added to deliver services locally to ensure urban areas in which many marginalized and under-served people live. The developing countries have the advantage of learning from the experiences of other countries and are in a better position to establish national status of development. For example, instead of implementing a few broadband terrestrial systems, developing countries can employ wireless technology. An accessible and reasonably priced electrical and telecommunications infrastructure is essential. E-learning is to spread beyond larger urban areas.

According to Groves (2006), “The challenge in Africa from a governmental and regulatory perspective is what can and should be done 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 remove regulatory burdens that prevent the establishment of a healthy competitive environment and encourage investment” (Mahar, 2008). In addition, a more realistic view and change 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 licenses payable by telecommunications companies, where Internet access is low (IBBC News, Update, 2008). By connecting learning centers to the Internet, Sri Lanka officials can introduce the web to local communities. Once the Internet connection to learning centers, has been made, private quadrice can take the Internet connection from the learning centers into the local communities. These quadrice then may...
establish internet cafes which are "bourgeois 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 internet, the contractors can also 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. Nairobi University in Kenya considered using copper wire, optical fibre, wireless networks, and/or satellite signals to provide the connectivity it required. The National Ocean University of Nigeria decided to use Nigeria's Communications Satellite (NIGCOMSAT) to link its main campus with its video conferencing facilities located in a study centre across the country. Each institution had to 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 was slowly moribund in quality, reliability, and coverage. However, governments must still make regulations that foster infrastructure development, increase the infrastructure spending, and spend funds wisely on initiatives that will foster access to rural areas. In 2003, NIGCOMSAT's type of infrastructure that is implemented in this part of the distance education program (Bates, 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 do not own a cell phone. The World Bank, 2004, also notes that India's emerging status as an economic powerhouse. Personal ownership of a computer is a dream for many in these countries. The equipment available (http://www.teleserve.org/) provides 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. The options are significantly less expensive than a typical Intel III computer, which can cost up to US$1800 in Brussels in the Democratic Republic of Congo (Chabomba, 2007). Computers are available through the One Laptop Per Child Project (OLPC, http://laptop.org), which are currently sold at US$100, seem to be built with constructivism and non-engineering in mind. They are capable of handling network and the software seems to accommodate non-adoption of a chic policy. These computers appear to be well suited for elementary school and students in areas where electricity and network infrastructure may not be non-existent as they consume 10% to 20% of the wattage of normal laptops; can generate their own power by use of pull levers, solar panels, and hand crank; are waterproof and dust proof; and have very few moving parts. While the Intel G3560 PC (http://www.iasamatec.com), priced at US$70 to US$200, may be best for a secondary school market; the OLPC laptop and Local Computer PC are not the only low-cost personal computers. A Canadian company, Inktomi (http://www.inkomedia.com), has produced a US$300 Linux-based laptop, for the developing world. Lenovo, which bought the IBM Thinkpad line in 2005, offers a US$199 computer to the 600 million people who live in rural China (McDonald, 2001). That sounds like a good deal until you realize that the average wage in rural China in 2006 was US$1580, although it is increasing at a rate of 10% each year. Currently, there are over fifty initiatives that involve the use of low-cost
Computers to serve students in developing countries
(http://www.newsfocus.org/Publication; 107.html). Despite recent downsizing of the
management of the OLPC initiative, OLPC is credited with shining a light on the technology
issue of how students in developing countries can be better served.

Rather than purchase new computers, some countries such as Kenya, Namibia, Trinidad,
and Tobago, and Uganda have looked to obtaining or refurbishing computers from non-
governmental agencies. Computers for Schools Kenya (http://www.csfsk.org) has provided
computers to 5,000 students in marginalized communities in Kenya. In 2006, this
organization received donated computers from Canada, Great Britain, the Netherlands,
Norway, and the United States, then repairs them and sends the refurbished computers to
previous owners so that schools can resell them. The work is primarily completed by
students, intern and volunteers who acquire ICT skills if at analogous to obtain
maintenance and software. This work is primarily completed by student interns and
volunteers who acquire ICT skills at the same time as they contribute to refurbishing
computers, including dealing with the compatibility problems associated with the wide
variety of computer models and software. This is a potentially high maintenance cost, and
therefore, on software, because the machines may not be able to run new programs.

Educational institutions and governments must assess the true cost of the technology, not
just the initial purchase cost, which may be only 25% to 35% of the actual cost of ownership.
(What is...) Maintenance, software, and training costs must also be considered.

Counteracting cultural imperialism and addressing cultural diversity
Western values bring Western values (Emmerson, 2007). Many in developing countries,
particularly Africa, feel that they are losing their own cultures when it comes to
education. This problem is evident in many developing countries.

There are at least 6,912 living languages in the world, of which about 347 have more than
one million speakers (Gorinc, 2005). In Africa, where many countries have more than 10
languages or dialects, it may not be feasible to develop print materials or coursework in a
variety of languages. If the coursework is produced in one language, which should be?
Often, the language selected is one from colonial times that complaints of cultural
impersonation heard. Furthermore, many cultural groups have a cultural tradition that is best
supported by lectures and group discussions. Other cultural groups are uncomfortable with
the concept of critical thinking exposed by many home education curricula, as they see it will
lead to criticism of their sides. For example, in an article describing the development of
an educational system for Bhutan and Nepal, Reagle & Mason (2007) state, “...the concept of
‘critical thinking’ is highly valued by Western educators, and its use in a traditional
Buddhist educational system, where this actively works against the idea of student-centered
learning that values creativity, rationality, and creative approaches to learning” (p. 3).
A television project in Thailand failed not only because of the high cost of marketing and
distribution, but also 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 societal values disappear.

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

References: UNESCO, Teaching Distance Education in Developing and emerging Nations, IRROPL, February 2009
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 (Makor & Werle, 2002) and should consider the use of open-source course management and delivery software (Wright, 2004) such as Moodle (http://moodle.org) and Sakai (http://sakaiproject.org). "Open source software offers the potential to reduce the cost of the software while providing as security incentives and promoting transparency" (Hoffman, 2004).

Educators can easily minimize the duplication of effort required to develop materials. The Commonwealth of Learning (COL), for example, works with the eight countries of the Southern African Development Community (SADC) (http://www.sadc.edu) to develop learning 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 content was developed, each country was able to adapt them to meet the needs of its people. The COL has also initiated:

* "The Virtual University for Small States of the Commonwealth (VUSC), http://www.ecu.org/vusco/" - a collaborative initiative in blended and open learning to make available a free education curriculum by 2015.

With collaboration, the cost of a particular initiative to any one institution, agency, or country is minimized and 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 (MERLOT) (http://www.merlot.org). The educators developed their own learning objects or online activities; they should ensure these are more than just electronic page-turners. According to Wright (2007), the online learning activities should:

* Engage and motivate the learner by including online quizzes, role-plays, and simulations;
* Demand that learners use 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 new edge transfer;
* Offer timely, constructive, relevant, and frequent feedback; and
* Provide links to resources beyond the content and the learner's community.
A regional learning repository is 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.hwfd.org) that support open educational resource initiatives designed to equalize access to knowledge and educational opportunities. The Teacher Education in Sub-Saharan Africa (TELSSA, http://www.tecssa.net) initiative is an example of a successful collaborative effort that develops open educational resources and provides guidance to teachers. This initiative involves eight international organizations and educational institutions: the African Virtual Open Initiative on Resources (AVOIR, http://www.avoir.org), comprising nine African universities, focuses on developing free software that is user-friendly 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.co.za) part of the Global Development Learning Network (GDLN, http://www.gdln.org), has united individual institutions to share knowledge and learn how best to offer distance education. One of its priorities is the provision of effective, cost-effective support to distance learners. The partnership of 15 ADLC 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 developing countries provide 24/7 on-line 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, institutions could consider collaborating on the provision of tutoring services. Collaborative efforts can address the challenge of limited resources and be beneficial to all involved.

Working across borders can address the lack of educational resources and the need to introduce flexibility in new instructional methods. Recently, the United Nations University (UNU-MERLC) collaborated on the deployment of e-learning in over 150 developing countries. In addition, the U.S. Agency for International Development (USAID) has initiated a programme that will enable institutions in Africa to collaborate with their American counterparts (Lindsey, 2008). Thus, the institutions will be able to participate in projects in education, economic development, food security, and health. According to Silas Wusakamba, rector of the National University of Rwanda, the partnership will benefit African universities by "building the capacity of their graduate programs, introducing interactive teaching methods, providing training opportunities and mentoring opportunities for faculty members, and bringing more women into academic ranks" (Lindsey, 2003).

Placing greater emphasis on quality assurance frequently takes the task of policy and practice at the national level. Consequently, distance education has been viewed as second-rate education that focuses on memorization rather than on problem-solving and is seen as a costly enterprise, especially when Information and Communication Technologies are introduced. Paullin (2005) expresses this concern about distance education in the developing world: "Distance education is regarded by students andngers of educators alike as a second-rate system; used to offer a shadow of education with- out delivering its substance. It is an inefficient but cheap way of containing educational demand without meeting it." (p. 207). His view of distance education is widespread not only in South East 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 is still prevalent in subject-specific areas. (Cram, & Mason, 2007, p. 27;). According to
Professor Dharanipragana, the chancellor of the University of Queensland, argued that the "mode of delivery, whether face-to-face or virtual, actually has little to do with the quality of education. What is more important are things like, in terms of face-to-face contact, in terms of benchmarking of student outcomes and in terms of the degree of the student's success."

The importance of technology lies in the "right" use of technology to enhance the learning experience. "It's not just about how it is used and the attitude students take to it. Technology should not only be exposed to the literature about effective distance programs, but also be used in education and training to students whose lives have changed because they were able to access distance education courses. Increased awareness should improve attitudes towards "implementation" of technologically-enhanced distance education."

One of the reasons why distance education is not respected in some countries is the lack of quality assurance systems that continue to measure the progress of organizational goals with actual achievement. Instructor training, course development, student learning, interactions, student support, assessment, and paths of student success upon graduation (Wright, 2007). Also of concern is the lack of meaningful interaction that promotes higher-order critical thinking. Quality affects student achievement, graduation rates, the potential for students to obtain a job or to pursue further education upon graduation, the support of educational stakeholders, and the image of credibility that institutions have within the community.

Various countries need adapted models to develop and customize quality criteria for distance education. They need to define quality goals for 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 (ODL) institutions bring with them institutional policies that may not help the ODL institutions to achieve their overall goals, especially goals related to accessibility, flexibility, and equity. Staff in new ODL institutions in emerging nations must be introduced to attributes of ODL that differentiate it from traditional teaching.

Quality assurance systems should have a higher priority when resources are limited, as 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 examiners to review their progress in achieving these standards.

Recognizing those who are likely to succeed and addressing student needs

Educational opportunities should be available to everyone. People who live in the street and in rural areas, as well as those in different communities, have a right to an education. However, when new programs are implemented, the government agencies usually focus on completion or graduation rates in determining whether funding should be continued and programs expanded. Since distance education programs may suffer from low completion rates (Parliament, 2007), it is important to understand the impact of variables that will likely be successful with distance education courses and actively 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 in online or e-learning students are likely to be highly-motivated, well-organized, self-disciplined, good time managers, supported by family and colleagues, able to tolerate ambiguity, flexible, goal-oriented, and interested in using technology (Wright, 2006). Post-secondary level students are likely to be more successful with distance education than primary students (Perron, 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 certification, a salary increase, and/or promotion. This 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 physically located elsewhere, are geographically dispersed, or are far away from home. For example, military personnel, emergency staff, missionaries, international volunteers, and refugees workers. These individuals recognize the need for access to education that is not bound by time and place. Distance education is also of interest to those who want lifelong learning options. 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 these student services may be provided in a virtual form (Perron, 2001). In some cases, costs home by the typical traditional institution such as training, the provision of students who can afford an additional financial burden. In collaboration with the Canadian International Development and Research Centre (http://www.cird.ca), countries such as Benin, Egypt, Korea, South Africa, and Uganda have established a network of networks 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 technological tools, limited access to up-to-date and engaging resources, and the need for quality assurance systems, but given an increasing number of online prospects, students have other concerns that must be addressed. These concerns may contribute to attrition rates that can be as high as 20% to 25% higher than traditional education than for traditional face-to-face courses (Anglin, Williams, & Vavrek, 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 (Hollman, 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 faculty 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 or tutor 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 attention is given to addressing their needs.

Dealing with faculty concerns

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Reviewing Issues Facing Distance Education in Developing and Emerging Nations, IADDL. February 2009
Faculty may not support a learning system that is substantially different from the traditional, post-colonial, face-to-face instructional 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 (Struick, 2005). Their students may also need to be used to a face-to-face learning environment. If institutions wish to research and publications—rather than the time and effort required to produce and support distance education courses, faculty may not have the support they need to make the transition to an electronic form of distance education (Anderson & Middleton, 2002; Levith & Milheim, 2003). They may develop teaching anxiety associated with the lack of training with the new technology and instructional methods, the tension between allocatin time to online course development and research, increased workload, and performance expectations in an unfamiliar learning and instructional environment in which learners are more resistant and constructivist approaches may be emphasized. These faculty concerns are common in developing countries such as Botswana (Wright, 2007c), as well as in more economically advanced countries such as Brazil (Porto & Berge, 2008).

Technical support is often lacking in developing countries, as the few individuals with technical expertise focus on network infrastructure and security. Faculty must learn how to install and maintain computers and software and troubleshoot problems that they and their students encounter (Wright, 2007b). Instructors also need to learn a variety of online communication skills (Smith, 2007c) especially how to foster active learning (Moore, Easley, & Watson, 2007), build effective interaction in other courses (Plattner, 2002, manage their time (by 2000), and write effectively (Thomas, 2002)). Often overlooked is the need to inform instructors and students about copyright and electronic plagiarism 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 try to learn about technology in a way that they can have easy access to it. Since 2006 the National Open University of Nigeria has provided laptop computers with general packet radio service (GPRS) and internet-enabled wireless modems in the University of Nigeria, especially the main campus. The courses are provided via a video link in the lecture between the staff and the university management. Each internet card has a monthly internet credit of US$48. 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 rapidly and can be used to assist instructors in learning computer skills and developing distance-based materials (Wright, 2007b). If this is to occur, faculty may need to overcome their 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 based in other countries, they may contact colleges that have collocated Western views and provide one-way interactive seminars. But no other opportunities for participants to discuss the topics they have heard. For example, the learning modes in the West usually involve one instructor with a small group; this would be unsustainable in developing countries (Lentel, & O’Rourke, 2004). Developing country hosts should insist that the learning sessions be interactive and allow time for reflection and the development of...
local solutions. Educators should be encouraged to obtain clear data from reliable websites and blogs such as EDUCALISSE (http://www.educalsee.com), Stelpher’s Web (http://www.knowl.org.), and ZadaLearn (http://www.zadalearn.com). Educators should actively participate in organizations such as the MERLOT Africa Network (MAN, http://merlot.ac.za/), 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 Australia, China, Colombia, France, Japan, Korea, Mexico, The Netherlands, Saudi Arabia, the UK, the United Kingdom, the United States, and Vietnam. The Open Educational Resources Community (http://www.openeducationalresources.org/) offers teaching and learning material at the basic, secondary, and college levels. It can be retrieved online and transferred to compact discs or memory/USB keys for use abroad, where internet access is limited. In 2008, the South African Institute for Distance Education (SADIE) established Open Educational Resources (OER) Africa (http://www.oerafrica.org), a free enterprise-funded initiative to provide OER for higher education institutions in Africa. The OpenEd Community, http://www.opened.org, 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 "paranoid horticulture" by breaking localization, contextualizing material, and making it available online. A recent study by the World Bank (2007) found that open courseware is the single most important factor in improving teaching and learning outcomes. The materials are no longer restricted by geography and can be accessed at any time.

The OpenLearn Library (http://www.openlearn.org) is an initiative managed by the British Open University, which allows users to download content and course materials. These materials are available through the OpenLearn Library, which offers a wide range of courses in various fields. The OpenLearn Library is a valuable resource for educators and students, providing a wide range of courses and resources for free.

According to Lou Squirrel, of Curtin University of Technology, in Australia, open courseware has the potential to revolutionize education, providing access to high-quality education in remote and rural areas. The materials are available online, making it possible for educators and students in remote areas to access the latest educational resources.

The Ordinary Digital Library (http://www.academic.org) was created to make it easier for users to access educational resources. The library contains a wide range of materials, including online journals, courseware, and multimedia resources. The materials are available in a variety of formats, making it easy for users to access the information they need.

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Implementing mobile learning

Although implementing mobile learning is not a recent event, since educators have not previously encountered this method of delivery, it is an urgent issue for developing countries. As they are trying to implement online learning effectively, developing countries are also exploring the use of mobile technologies. As we all know, the mobile phones and the current network devices make them difficult to use for many educational purposes; however, the devices are more affordable than computers and are socially acceptable in all areas of society, easy to use, and are everywhere. In Africa, mobile phones are used to contact groups of educators such as teachers and principals with specific messages related to administration and educational content. Mobile phones are also used to transmit information or amend grades, to contact students about class activities or cancellations, and to record and distribute photographs and audio or video recordings. In Nigeria, mobile phones are used to teach literacy to some of the 48 million adults who wonder about its potential and along its shoreline (Agbome, Okobata, and Okokhie, 2007). The phones are also used to keep job listings and health information to low-income residents of Cameroon and Uganda and to enable doctors to diagnose patients in remote areas (K-NAS and Tanzania Development, 2007; TRAIAC, 2008). Eison will establish an interactive center in sub-Saharan Africa and develop mobile applications in health, education, agriculture, and small businesses that will focus on improving health and education in rural populations (Eison’s ongoing commitment to support the achievement of the UK’s Millennium Development Goals) (Corinck Online, 2008). The projects described in this paragraph do not currently have too individual learning aspects that most would consider to be an important ingredient of distance education programs, but they are a step in the right direction. They are providing educational resources and opportunities to those who have had limited or no access.

A London Business School study indicates that an increase of ten million phones per month means boosts the economic growth rate of developing countries by 0.6% (Economics Today, 2008). There is nothing that will not be tremendous growth of mobile phones in developing nations, giving us educators an opportunity in using these devices, and the expansion of mobile phone manufacturers is to be seen. The increase in educational opportunities, a time will come when the technology is not just for communication, conducting financial affairs, and performing administrative tasks, but also for in-depth learning and assessment. The future of mobile learning is uncertain, but it may become the foundation of an exponential growth in distance learning because mobile appliances are ubiquitous, affordable, and have wireless capabilities that can reach urban and rural areas that lack a conventional infrastructure. However, those who opt for mobile learning are likely to encounter the issues discussed above relative to online learning.

Conclusion

Despite the challenges described in this article, new institutions are launched each year, existing educational institutions are expanding their online learning options, and enrollment in
distance education courses continues in both the developed and developing worlds. The continued growth and success of distance education institutions will depend, in part, on the extent to which issues covered in this article are addressed, as they defy both the quality of the learning experiences provided to students, for those in developing and emerging nations, distance education is thus a promise of a better life, and just an enhancement of existing educational offerings.

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