



COMMONWEALTH *of* LEARNING



SPEECHES

By Sir John Daniel and colleagues

*Six speeches delivered in Southern
Africa by the President & CEO of
the Commonwealth of Learning*

August/September 2005

Contents

Open and Distance Education for Africans and by Africans 5

African Council of Distance Education | Tshwane, South Africa | 12 August 2005
By: Sir John Daniel with Vis Naidoo

Distance Education: What is its relevance to Africa and Zambia? 11

Open and Distance Learning Symposium | Lusaka, Zambia | 27 August 2005
By: Sir John Daniel, President, Commonwealth of Learning

ODL in an International Context: Trends, Prospects and Challenges .. 15

Namibia Visit – Public Lecture | Lusaka, Zambia | 29 August 2005
By: Sir John Daniel & Asha Kanwar, Commonwealth of Learning
& Stamenka Uvalić-Trumbić (UNESCO)

Towards Education for All: The Critical Role of Open and Distance Learning in National Development 23

Namibian Conference on Open Learning | Windhoek, Namibia | 30 August 2005
By: Sir John Daniel, President, Commonwealth of Learning

ICTs in Education: Can Digital Dividend Replace Digital Divide? ... 29

WITFOR Conference | Gaborone, Botswana | 1 September 2005
By: Sir John Daniel & Paul West, Commonwealth of Learning
& Susan D'Antoni (UNESCO-IIEP) and Stamenka Uvalić-Trumbić (UNESCO)

ODL and ICTs for Teacher Development in Sub-Saharan Africa: the Experience of the Commonwealth of Learning 35

BOCODOL Workshop | Gaborone, Botswana | 1 September, 2005
By: Sir John Daniel & Mohan Menon, Commonwealth of Learning

Introduction

As UNESCO's Assistant Director-General for Education I learned by observing my boss, Koïchiro Matsuura, that the head of an intergovernmental agency can best ensure the relevance of its work and demonstrate its commitment to the Member States by going to see them. Inspired by that example I have visited each major Commonwealth region since becoming President of the Commonwealth of Learning.

Southern Africa is the most distant part of the Commonwealth from COL's headquarters in Vancouver but travel within the region is easy. In the space of a month I visited Ministers of Education and institutions in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland and Zambia.

This booklet contains the texts of six speeches that I delivered at conferences and symposia during the trip. Because their access to the Internet is sometimes limited, African colleagues whom I met often asked for 'hard copies' of my addresses. Here they are. The subjects cover various aspects of COL's work: the contribution of technology to education; open/distance learning and development; distance learning in the context of Africa; cross-border higher education; eLearning; and teacher training. Some themes recur between speeches, but since the topics are different we have preferred to maintain the integrity of each text rather than eliminating all repetition.

COL is a small intergovernmental agency with the mission of harnessing technology to learning. We collaborate with other agencies and try to complement their work. Two of these speeches reflect our work with UNESCO and I thank Susan D'Antoni and Stamenka Uvalić-Trumbić for their wise contribution to those topics. I also acknowledge with pleasure the input from my colleagues at COL, Asha Kanwar, Mohan Menon, Vis Naidoo and Paul West, as well as the creative work of Alex Hennig, who has a wonderful ability to create attractive publications from seemingly unpromising material. Finally, I thank my hosts and their colleagues in the eight countries for their warm welcome and for stimulating discussions.

Throughout my time in southern Africa I found that Ministers of Education have a new commitment to deploying technology-mediated learning as the way to achieve their goal of bringing education and training to all. I hope that the ideas and experiences captured in this booklet will, in a modest way, help African colleagues to fulfil those commitments.

Sir John Daniel

September 2005

*African Council of Distance Education
Conference Theme: Mobilisation of African Leadership
Tshwane, South Africa | 12 August 2005*

Open and Distance Education for Africans and by Africans

By: Sir John Daniel with Vis Naidoo

Introduction

I am delighted to be with you and I thank the conference organisers most warmly for fitting me into the programme even though I could not get here for the beginning of the conference. In the spirit of this Pan-African meeting let me begin with some remarks in French.

Tout d'abord, je félicite l'UNISA et son recteur et vice-chancelier, Barney Pityana, pour leur accueil chaleureux et pour l'organisation de ce premier congrès du Conseil Africain pour l'Enseignement à Distance. Il y a plus de cinquante ans l'UNISA a été la première université au monde à offrir l'enseignement universitaire à distance grande échelle, bien avant les universités ouvertes, comme celles du Royaume-Uni, de l'Inde et de la Thaïlande qui ont mis ce phénomène sur la carte par la suite. "Sir John delivering the closing keynote address at the ADCE..."

Bien entendu, dans la mesure où l'UNISA contribuait, pendant bien des années, au renforcement de l'apartheid, elle manquait de crédibilité en dehors du pays. Toutefois, depuis dix ans l'UNISA s'est transformée de fond en comble en se donnant une nouvelle orientation politique, une philosophie pédagogique moderne, et de nouvelles modalités de support aux étudiants.

Je félicite tous les artisans de ces transformations et notamment le recteur actuel, Barney Pityana, qui, en plus, a réussi le grand défi de fusionner trois institutions de taille pour créer, avec l'Université Vista et la Technikon SA, une nouvelle UNISA. Cette nouvelle UNISA est appelée dorénavant à jouer un rôle exemplaire dans le développement de l'enseignement à distance à travers l'ensemble du continent africain.

In these remarks I hope that I can add a bit more to the value of this gathering and to your theme of Mobilisation of African Leadership. In that spirit I have entitled these remarks Open and Distance Education for Africans and by Africans.

This address has been prepared with the help of my South African colleague Vis Naidoo. After a number of years of excellent service at COL as our policy specialist, Vis is returning to South Africa at the end of this month to head the MINDSET Network. Vis' career is a nice example of what should be a growing trend, namely the return of African leaders to Africa after they have acquired valuable experience outside this continent.

Mobilising African leadership, the theme of your conference, must include mobilising the huge African Diaspora by inspiring some of them to return to Africa and others to contribute to Africa's development from their new

homes. Open and distance learning – most particularly the creation of open educational resources that I shall talk about later – provides excellent vehicles for doing that.

The importance of professional associations for ODL

The creation and development of the African Council for Distance Education gives me special pleasure because I believe strongly in the value of associations like yours for nurturing leadership, improving professional practice, and giving greater prominence to open and distance learning.

I am proud to recall my own involvement in the International Council for Correspondence Education early in my career. With the emergence of the new wave of multi-media open learning in the 1970s a number of us thought that it would be healthy to change the name of the organisation and attract a wider membership

to it. We made a proposal to the ICCE World Conference in Vancouver in 1982 and members decided that it should become the International Council for Distance Education. This did have the effect of broadening the membership in subsequent years, although distance learning within higher education became somewhat over represented.

I hope that you at the ACDE will work hard to grow your membership outside the university sector. Important though higher education is, open and distance learning for technical and vocational education and at secondary school level is probably even more significant for the development of your countries. Furthermore, as I shall point out in a minute, the techniques of ODL can be very helpful for important areas of learning that do not fit our conventional frameworks of levels of education.

I am also proud to have been involved in the creation of EDEN, the European Distance Education Network. This began when the Berlin Wall came down and the countries of Central and Eastern Europe realised that distance education could be a major part of the answer to their massive needs for retraining.



*Development is the
legacy of learning.*

There had, of course, been extensive correspondence education in the Soviet Union, but it was a very directive and regimented form of distance education. Many of the dynamic educators in these countries felt that the modern philosophy of open and distance learning was what they wanted for their countries in transition. They felt that modern ODL was a metaphor for the more open and democratic societies that they were trying to create.

There already existed a European Association of Distance Teaching Universities. I was a member of this, as Vice-Chancellor of the UK Open University, and it was doing good work. However, many of us in Western Europe felt that what really mattered, in extending and improving the practice of distance education, was to provide opportunities for individual professionals to network, to learn from each other and get opportunities for professional development. This became the focus of EDEN and the Association has had a very beneficial effect in creating a community of practice for ODL across the whole of Europe.

I look forward to seeing ACDE establishing communities of practice that involve Africans and provide ways of involving the African Diaspora to support education.

The Role of the Commonwealth of Learning

As many of you know, the mission of COL is to help governments and institutions to develop policies, systems and applications of technology for learning. In the last few years there has been a steady increase in the number of countries that have established policies for technology-mediated learning. Some focus specifically on ODL, some are oriented to the use of ICTs in schools, while others try to capture the use of technology across a spectrum of learning.

At COL we believe strongly in the importance of establishing policy, because it provides a considered and solid basis for developing the systems and applications that follow. That has been the focus of Vis Naidoo's work at COL and we are currently seeking a successor to carry on that important function.

I have noticed that when governments pay attention to policy for ODL and ICTs, then practitioners become more aware of themselves as a community of practice and create professional associations like the ACDE. In the last year COL has welcomed and encouraged the launch of CARADOL, the Caribbean Association for Distance and Open Learning, which in turn builds on the emergence of national associations like GADOL, the new Guyana Association of Distance and Open Learning, and JADOL, the Jamaica Association of Distance and Open Learning. So you are in good company. I wish the ACDE well and I pledge COL's support for your efforts.

What role for technology in learning?

All of us here believe in distance education and in the wider role of technology in learning. Why do we believe this? Let me take a few minutes to rehearse my own perspective on this.

I start from the observation that Africa's challenge of development, which Africans are now taking up resolutely through mechanisms like NEPAD, is

largely a challenge of learning – formal and informal. Our conference theme is the mobilisation of African leadership. Leading and learning go hand in hand. But the followers must expand their learning too. What defines a developed country is the depth of education and training, that is to say the legacy of learning, of the population at large.

So the challenge is to provide more extensive opportunities for learning in the great diversity of fields that define the functioning of a modern society such as government, health care, disease prevention, development management, teaching, business and entrepreneurship.

What characteristics must these opportunities for learning have? Three seem particularly important. They must be widely accessible, they must be of good quality and they must cost as little as possible. I find it

helpful to think of a triangle defined by these three vectors of access, quality and cost.

When you do this you realise very clearly the limitations of conventional methods of teaching and learning. Suppose that you want to increase access, as some countries in Africa have done recently by making primary education really free. Much larger numbers of children come to school but the recruitment and training of teachers cannot keep pace. Class sizes increase and people will think that the quality of learning has gone down.

Suppose that you want to increase quality by providing more books and learning materials. The cost of schooling will go up which may mean that it can be offered to fewer people and access will go down. My general point is that if you try to improve one side of this triangle it usually changes the other two sides in undesirable ways. For this reason I refer to it as the iron triangle. It has been a straitjacket on the expansion of education throughout history.

The revolutionary feature of technology in general and ODL in particular, is that it can break open the iron triangle. You can increase access, improve quality and cut costs – all at the same time. This is because of the economies of scale and consistency of quality that come with using media. That is the good news.

The even better news is that these advantages seem to grow with every new generation of media. CD-ROMS and DVDs cost less to print than books. Distributing material on the Internet costs almost nothing once networks and computers are in place. The collaborative development of open educational resources is a particularly promising development for Africa.

Independent and interactive learning

I like to explain the impact of technology on the iron triangle by noting that learning takes place in two ways. First there is independent learning: learning that you do by listening, watching or reading. Most of our learning is of this type – the more so as we get older. People sometimes say that learning in a classroom or lecture hall is interactive, because there is a teacher present, but in reality most of the time in the classroom is spent in a one-way flow of information and you are learning independently.

Real learning requires more interaction than that. By interactive learning I mean a situation where another human being, who might be

*Do not be too
mesmerised by
technologies that
are not available
to you*

a fellow student, a teacher or a tutor, reacts directly to a comment or a question that you make. The moments of interaction can, of course, be very important. Asking a question can enable the teacher to clarify a misunderstanding. Even more valuable is when the teacher comments on or corrects something that you have done as a learner to demonstrate your understanding of a topic.

In the early days of distance education its great strength was to concentrate on the independent component of learning by producing quality self-instructional materials, almost always in print form. What did this do for the iron triangle?

First, printing has economies of scale – and that was even truer in the days before computers made it possible for us all to be printers. Once you have printed a thousand copies, the marginal cost of printing a few more is small, so that acts on the first two sides of the triangle. By getting the cost down you make it possible to increase access, because you can provide learning materials to more people. The potential effect on the third side of the triangle, namely quality, flows from these two. If you are producing in volume then it makes sense, in the initial investment, to ensure that the materials are of high quality in both content and pedagogy.

These principles apply even more strongly to later forms of media, particularly the mass media. Once you are broadcasting a TV or radio programme it costs you nothing when extra people tune into it. Provided that they have a TV or radio set it costs them very little too, just a little electricity. The economies of scale of the media and technologies of independent learning are the foundation of the success of the many open universities around the world that have done so much to put open and distance learning on the policy agenda of governments.

But the more successful open universities did more than produce excellent materials for independent study. Understanding that interaction with teachers and the institution is vital if most learners are to achieve their goals, these universities set up systems for interactive learning, usually by making part-time tutors available to mark and comment on students' work, to answer questions, and sometimes to hold face-to-face meetings. Such arrangements are inherently more expensive per student than the independent learning media, but if the institution organises itself well there can be economies of scale here too.

The evidence shows that the combination of high-quality materials for independent study and effective arrangements for interactive tutoring is the basis for successful open and distance learning whatever media are used. As you know I spent nearly 20 years in open universities, including a decade at the UK Open University. By the time I left the UKOU to go to UNESCO in 2001 it was a pretty hi-tech operation, with 150,000 students online from home.

I should also note that by this time the UK Open University had risen to fifth place in national rankings of the quality of teaching in English universities. I also note that when students were asked which aspects of the University's distance-teaching system were most helpful to them, the printed materials and the tutors consistently gained the highest ratings.

The Internet

As Africa's leaders in distance education you need to remember that finding and not be too mesmerised by the new technologies that you don't have. Nevertheless, it is clear that electronic communication through the Internet can have a wonderful effect in speeding things up. Students like to get feedback on their assignments as soon as possible and e-mail is inherently much quicker than regular mail – provided, of course, that the tutor also acts and corrects the assignment expeditiously.

Another great feature of the Internet, which is a relatively greater advantage for you in Africa where libraries are rare, is the wonderful resource of the Web, which just gets better and better. More and more people, when they want to find something out, simply go to Google or to that wonderful collective intellectual endeavour of humankind, Wikipedia. Then there are the increasing numbers of collaboratively developed electronic course materials known as open educational resources.

The advantages of online communication go well beyond formal learning. One of Vis Naidoo's key programmes at COL has been supporting Schoolnets/eSchools, particularly here in Africa. The advantages of school networking are not just the capacity for online learning but include the creation of communities of interest amongst teachers and new opportunities for professional development. This defines the primary purpose of a Schoolnet, namely to facilitate collaboration between school communities using ICT for educational purposes.

Africa has taken this concept of using ICT for schools and has been innovative in identifying models for teacher training to use technology for teaching and learning, using the school-based technology to support health developments within a community and to create a new cadre of African educators. Such indigenous innovations are important for Africa and vital for African leadership to support.

You must also realise that Africa does not always have to be a follower in the use of technology. I am sure you are aware of the many recent articles that claim that mobile phones are much more important to Africa's development than computers. Mobile phones are letting Africa leapfrog over a whole generation of infrastructural development in telecoms and create some interesting new applications. I understand, for instance, that using text messages on mobile phones to remind UNISA students of the due dates for assignments and the scheduling of examinations has been very successful.

ODL and ICTS in Development: examples from COL

My key point, at this first meeting of the ACDE, is that Africans can and must take the lead in applying ODL and ICTs to the challenges of African development. I want to expand on this point by recalling some of the things that COL is doing with Africans in Africa to promote development across a spectrum of human activities.

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Capacity Building

First, much of our work is capacity building, or helping to create the institutions and leaders that can make a difference.

For five years now, for instance, we have been bringing together groups of African vice-chancellors and senior university leaders for intensive residential sessions on management and leadership at the University of Abertay in Scotland. We are currently evaluating the impact of these sessions by surveying all the alumni of the programme to find whether it made a difference to their work and careers.

In a similar fashion, the Government of Singapore has helped us offer training sessions to leading figures in Africa's teacher training institutions for a number of years.

We respond to requests from governments, most recently from The Gambia for example, to help them put in place a policy framework and structures for expanding and improving ODL. We are impressed by the emphasis that a number of African leaders are placing on the role of ODL in developing their education systems and are pleased to work to the priorities that they set.

President Obasanjo of Nigeria is highly committed to distance education and at his request we are doing everything we can to support the building up of the National Open University of Nigeria (NOUN). We try to expand the benefits of such work to the adjoining region – in the case of West Africa by supporting RETRIDAL, the Regional Training and Research Institute for Distance and Open Learning. For southern Africa we are supporting SARDEC, the Southern Africa Regional Distance Education Centre at BOCODOL in Botswana.

ODL for Development

As well as our work in building leadership capacity, we are also working with Africans to test new approaches to the use of educational technology in development in the hope that some of the ideas will be powerful enough to be self-replicating. I can best give examples by running through some of the Millennium Development Goals.

Hunger and Poverty

Let me start with the fundamental goal of reducing hunger and poverty. Africa's development will never take off until the rural people of Africa, many of them farmers, can improve their lives. Here COL is trying to address the paradox that there is a vast body of knowledge, arising from worldwide research on agriculture, which could improve their lives. It doesn't reach them partly because the agricultural extension services that might bring it to them are overstretched and partly because attempts to provide it to them rely too much on one-way communication.

COL's formula, which we are trying out in Africa now that it is beginning to show signs of success in India, starts with mobilising the village

communities to help them develop a vision of a better future which leads them to formulate questions about how to farm better.

The local sources of information, notably the agricultural and veterinary departments of universities, then work together in a consortium to answer these often simple questions. The media for communication between farmers and information providers are the ICT kiosks that are present in an

increasing number of Indian villages. Finally, and very importantly, the commercial banks make loans to the farmers and help to reorganise the marketing of the farmers' produce.

So far this seems to be working. Our aim is for the model to be so clearly superior to current practice that it replicates itself and this seems to be happening.

A study facilitated by COL with the University of KwaZulu-Natal identified that radio is playing a major role in education and extension activities in Africa. Discussions with African partners in an international gathering during a meeting organised by COL and the Forum for Agricultural Research in Africa (FARA) in Uganda identified critical needs for improving the livelihoods of resource-poor (farming) communities.

Priorities should include firstly, raising awareness about the potential of ICT for community development; secondly, developing a consortia of new partnerships and participatory approaches; and thirdly, building human resources to develop digitised and localised content that can fit into any type of technology including radio which has shown promise, broadband Internet that has significant potential, as well as print media.

Partnerships for enabling learning for resource-poor communities should go beyond conventional educational and research institutions and include all stakeholders such as grassroots communities, civil societies, private sector, financial institutions and international organisations such as NEPAD, FARA, and

the Consortium Group on International Agricultural Research (CGIAR). We are now discussing such a model in Africa, with appropriate adaptations, in South Africa. In India nearly all the work in designing and launching this model was done by Indians. In Africa we are looking to a team of Africans to make it a reality.

Mobilising African leadership must include mobilising the huge African Diaspora by inspiring some of them to return to Africa and others to contribute to Africa's development from their new homes. Open and distance learning – most particularly the creation of open educational resources – provides excellent vehicles for doing that.

Health

Turning from hunger and poverty to health, there are three Millennium Development Goals in health, addressing infant mortality, maternal mortality, and diseases like AIDS and malaria. Improving health services is clearly an important factor in achieving these goals. Almost as important, however, is informing the public about hygiene and disease. Indeed, we at COL believe that a massive increase in learning is a condition for the attainment of all the MDGs. COL's approach to learning about health is based on the obvious fact that people will pay more attention to information that is presented to them by their own people in their own culture and language.

We make this happen by what we call media empowerment. The simple idea is to equip community-based NGOs with video and audio equipment, train them intensively in its use, and then have them produce the messages. In Africa we have helped to make this happen here in South Africa, where an NGO called the Valley Trust in KwaZulu-Natal has produced videos on HIV/AIDS stigma and taken them all over the province. This has led us into partnership with the World Health Organisation.

The model has also had success in The Gambia, where an NGO makes videos of dramatisations about disease avoidance created by peer health educators in the secondary schools. These videos are then taken out to the villages, using a simple system of projection that we call village cinema. Nearly half the population of the country have now seen videos on HIV/AIDS and malaria and the Government of The Gambia credits the system with arresting the growth in infection rates.

Education

These applications of technology to facilitate learning that can reduce hunger, poverty and disease are important. Nevertheless, most of COL's work is in education, broadly defined. Here in Africa this ranges from a strong focus on new methods of teacher education through the capacity building work in higher education that I mentioned earlier, to the creation of Schoolnets.

Renewing and retraining Africa's teachers is the cornerstone of the edifice of Education for All that you are trying to build. I am delighted that an important conference on the use of ODL in teacher education took place here in Tshwane just last week and COL was proud to be involved in it. COL is very proud to have been asked, with InfoDev to conduct the monitoring and evaluation of the NEPAD eSchools Demonstration Project.

This is a multi-country, multi-stakeholder, continental initiative, intended to impart IT skills to young Africans in primary and secondary schools and to use ICTs to improve the provision of education in schools. The goal is that within ten years of implementation in more than half a million schools on the continent, the African population will possess the ICT skills essential for sustainable development. This programme is leading the way to Africa-wide thinking in education. As well as its role in monitoring and evaluation COL is pleased to be providing knowledge products and policy support to the NEPAD eSchools project.

Unlike some other development agencies COL has always taken a holistic view of education systems, believing it important to sustain and cultivate education and training at all levels. In this spirit we have never depreciated the importance of higher education.

A few weeks ago, before the G8 Summit, we worked with the Association of Commonwealth Universities and the Association of African Universities to convene a meeting of African leaders in higher education to develop proposals for facilitating the renaissance of Africa's universities in response to the enhanced interest of western governments in Africa's development.

Governance

Mention of the G8 Summit leads me to conclude these remarks by commenting on governance, an issue that permeated the report of the Blair Commission on Africa and the discussion it generated at the G8 Summit.

Some may think it paradoxical that there is all this talk about the governance of nation states at a time when the watchword is globalisation. Is not globalisation removing decision-making powers from governments because they are helpless puppets pulled by the strings of international economic forces?

I suggest that the answer to this question is a firm 'no'! For a powerful argument in support of this assertion I recommend a book by John Ralston Saul, who happens to be the husband of Canada's soon-to-retire Governor General, Adrienne Clarkson. Entitled: *The Collapse of Globalism and the Reinvention of the World*¹ the book argues that globalisation as an economic creed is a spent force and that governments are more important than ever. He argues that China and India have succeeded because of the strong role of their governments, not because of globalisation.

Africa needs more state involvement in national affairs, notably for the protection of citizens. This requires appropriate laws and strong financial and social institutions. A vital manifestation of healthy governance is sensible policy, consistently applied. We at COL would argue that policy to underpin the development of systems and applications that apply

technology to education, training and learning is particularly important.

The African Council of Distance Education will be an excellent forum to examine and compare these policies so that states learn from each other quickly in this vital area and partnerships can develop. That is part of what I meant by my title, Open and Distance Education for Africans and by Africans.

I thank you for inviting me to address this important gathering and I wish you success in your roles as the leaders of a revolution in learning across Africa.



SIR JOHN BEING INTERVIEWED BY THE SOUTH AFRICAN BROADCASTING CORPORATION FOLLOWING HIS CLOSING KEYNOTE

REFERENCE

1. Saul, John Ralston, *The Collapse of Globalism and the Reinvention of the World*, Atlantic, p. 309. 2005.

Distance Education: What is its relevance to Africa and Zambia?

By: Sir John Daniel, President, Commonwealth of Learning

Abstract

In the coming years the approaches to teaching called distance education will become increasingly pervasive although the use of the term distance education will steadily decline. The concept of open learning, which has long been used inappropriately as a synonym for distance education, will finally take on meaning as technology helps the ideal of knowledge as the common property of humankind to reassert itself in educational institutions. Africa can benefit from this evolution in terminology and practice provided that its educators focus on the fundamental principles of effective teaching at a distance such as division of labour, specialisation, teamwork, and content recycling. Training and updating Africa's teachers is a priority for distance education because of the desperate need for more and better teachers and because teachers trained through distance education are more likely to bring the philosophy of open learning to the children of Africa.

Introduction

Thank you for inviting me to speak to you at this symposium on open and distance learning. It is a pleasure to be in Zambia. Because southern Africa is a long way from Vancouver I have decided to maximise the benefits of my trip by visiting the eight Commonwealth countries of the region. I am enormously impressed by the attention that is being paid to the development of open and distance learning by governments and institutions in the region.

For this reason I have decided in these remarks to go back to basics and ask simply: Distance Education: What is its relevance to Africa and Zambia? Since you are here at this symposium I suspect that this is a question that no longer bothers you. Maybe I am preaching only to the converted. However, many of you may now have to convert other more sceptical people in your organisations to an appreciation of the strengths of distance education. In this address I will try to distil the key arguments for the greater use of distance education or ODL as I shall sometimes call it.

I can summarise my response to the question in my title in the proclamation that is made when a monarch dies: the King is dead – long live the King. That

proclamation nicely expresses a balance between continuity and change. The institution of the monarchy continues – but with a new face as a king from a new generation succeeds his older predecessor.

In the same way I confidently assert that distance education is relevant in 2005, and also predict that it will be increasingly relevant to the development of Africa and Zambia in the years ahead. On what do I base that conviction?

Why might people doubt the continuing relevance of distance education? Let me tackle the last question first.

What's in a name?

There are two main reasons why some people talk as if distance education were a 20th century phenomenon that will not survive long into the present century.

The first is that the array of technologies available to distance education is constantly expanding, and with it the

number of words used to describe it. Flexible learning, distributed learning, on-line education, e-learning, virtual learning and multi-media education are just some of the terms in use. It is natural that people who come up with a new approach like to give it a new name. However, I shall argue that all these new names cover a single reality whose key characteristics will remain highly relevant to Africa in the years to come. In this talk I shall call that reality distance education.

Distance education in the classroom?

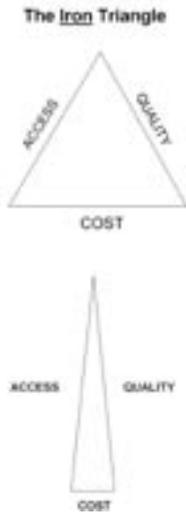
The second reason is that the techniques of distance education, which first achieved their reputation for success in new institutions often called open universities, are now spreading into conventional institutions that do most of their teaching in classrooms. This naturally makes the term 'distance

WHAT'S IN A NAME?

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open learning
online learning
e-learning
distributed education
flexible learning

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education' seem less appropriate. I am thoroughly in favour of the use of distance education techniques in all institutions, although I shall argue that they must be introduced thoughtfully if they are to yield the full advantages that I shall claim for distance education.



Before I leave the issue of nomenclature I also note that for thirty years the terms distance education and open learning have often been used together, as in the title of this symposium.

The main international professional body in this field changed its name in the 1980s from the International Council for Correspondence Education to the International Council for Distance Education. In the 1990s it changed it again, becoming the International Council for Open and Distance Education.

There is an obvious alliance between the term distance education and the term open learning. That is because one of the effects of using the approaches

of distance education can be – but does not have to be – the opening up of the opportunity to learn to more people in more places at more times. The institutional pioneers who introduced educational technology into higher learning thirty years ago expressed their purposes by calling their new institutions open universities and described their practices as distance education.

Hilary Perraton, a great distance educator who is well known to many in Africa, makes a useful distinction between open learning as the political imperative and distance education as the economic imperative. The political imperative is to increase access and the economic imperative is to make education more efficient and cost-effective.

The alliance between the two terms does not, however, make them synonyms. Indeed, you could argue that the steady extension of the techniques of distance education into all types of institutions has not been accompanied by a great increase in open learning, even though students who studied mainly in classrooms have gained greater flexibility in when and where they study. There is nothing wrong in that.

However, what the world needs – and what Africa needs in particular – is a massive expansion of opportunities to learn. Learning needs to be opened up to people of all ages. Why is distance education relevant to this challenge, especially in Africa?

An Educational Revolution

Distance education has achieved one of the rare revolutions in the history of education. The basic challenge that confronts ministers of education and all of you as educators is to manage what I call the iron triangle of education. This is a triangle made up of the vectors of access, quality and cost. You all want to maximise access to your education systems. You all want those

systems to offer a quality education. You all want them to do it at a low cost because you are all short of resources.

The Iron Triangle

The problem you face, of course, is that with conventional methods of education the iron triangle constrains what you can do. If you increase access by increasing class size people will accuse you of lowering quality. If you try to raise quality by putting more resources in the classroom you will raise the cost. If you try to cut costs you will often reduce access and quality at the same time.

Distance education is revolutionary because it allows you to change the shape of the iron triangle in a way not previously possible. It allows you to increase access, improve quality and cut costs all at the same time. What is my evidence for this claim?

It comes from the open universities that have been created around the world in the last thirty years. Some of them, such as the Indira Gandhi National Open University in India and the Open University in the United Kingdom, have demonstrably changed the shape of the triangle. The Indira Gandhi National Open University (IGNOU) now has well over one million students enrolled. It is ranked as one of the top ten Indian universities for the quality of its teaching and it operates at a fraction of the cost of India's conventional universities.

The UK Open University has fewer students than IGNOU, only 150,000 of them, but it also operates at lower cost than other British universities and now ranks fifth out of the hundred UK universities for the quality of its teaching. Oxford University is in sixth place.

Distance education has achieved one of the rare revolutions in the history of education. The basic challenge that confronts ministers of education and all of you as educators is to manage what I call the iron triangle of education.

I am not saying that all open universities have reconfigured the iron triangle in this way. Some have achieved high student numbers at low cost but have not yet won a reputation for quality. But the example of the good ones shows that it can be done. What is the secret?

Deconstructing the educational process

The essential secret is to break the educational processes of teaching and learning into their component parts and then to concentrate on making each part as good and as cost-effective as it can be. Before the arrival of distance education this was rarely done. Even when different steps in the educational process were identified, it was assumed that the same person, namely the classroom teacher, would do them all.

The four essential steps in an educational process, as in most human activities, are design, planning, implementation and evaluation. The tradition in education is that the teacher first designs a lesson or course; taking into account whatever curriculum framework they are working in. The teacher then plans the lessons, which means getting together any materials

needed for the students and seeing that the classroom has the necessary equipment. Step three is to deliver the lessons, usually face to face with the students, and including more or less discussion and interaction between students and teacher depending on the culture. Finally, the teacher must assess how well the students have learned and make an evaluative judgement about the effectiveness of the lessons as a whole.

In many circumstances this is an efficient and robust approach. Human beings are adaptable and teachers can readily make changes as they go along if any of these four steps runs into difficulty. However, although the approach may be efficient and robust it is completely subject to the constraints of my iron triangle. Improvements in one area usually mean deterioration in the others.

The pioneers of distance education did not set out to break up this traditional educational process – they simply had no choice. Their students were not all in the same classroom at the same time, but in their homes or workplaces and studying at different times. Rather than starting with the teacher and trying to adapt this four stage process to a different context, it was better to start with the learners and determine what they needed to learn effectively. There had to be division of labour.

Laying out the stages of a process is a common technique in business and industry but less common in education. In a school community or on a university campus people assume that the necessary ingredients for learning are all there somewhere and will mix themselves, more or less spontaneously and without a big organisational effort, into a successful experience. Distance education, on the other hand, has to think of everything and organise every step, from recruiting students to communicating examination results to them, across distance.

However, if we want to reshape the iron triangle the most important parts of the process on which to get leverage are those directly concerned with learning. Learning is the aim of the educational process and most people find learning difficult without good teaching.

Independent and interactive learning

The key to deconstructing the process of learning is to distinguish two types of learning activity: independent and interactive. Independent learning occurs when a student reads a book, listens to a lecture, watches a TV programme or works on a computer. Interactive learning occurs when another person responds directly to something that the student has done in the process of learning, whether it be asking a question or submitting some homework.

The key to designing an effective distance education system and the secret of stretching the iron triangle towards more access, higher quality and lower cost is to get the right balance between independent and interactive learning activities. That is because it is much easier to stretch the triangle with the independent activities than through the interactive activities.

Here are two examples. First, if a radio programme is part of an educational course it costs almost nothing for an extra person to tune in and listen to it. Whether two thousand people or ten thousand people listen makes little difference to the cost. Second, if the course includes a multi-media exercise, whether on the Web or on a CD-ROM, the marginal cost of having an additional student doing the exercise is close to zero once the student has access to a computer.

Quality of scale

I give these two examples because they yield even more striking economies of scale than older media for independent learning such as books.

Notice too that economies of scale can also lead to what I call the quality of scale. If you expect to have a large audience for your radio programme or large numbers reading your book, then it makes sense to invest in making the programme and the book as good as they possibly can be. You then gain again because students will learn more easily than if these learning materials were badly prepared.

Cost-effective interaction

But however good your independent learning materials are, most students will learn better if they can sometimes interact with a tutor or a fellow student. One of the reasons that correspondence education got a bad name was that there was little provision for interaction. Even if the independent correspondence learning materials were good – which was not always the case – the students wanted something more.

Designing and delivering that ‘something more’ is a bigger challenge than producing excellent independent learning materials on a large scale because Interaction requires people. There are limits to the number of students with whom any tutor can interact individually and there is also greater variability between tutors. Nevertheless, the successful open universities have made progress in this area too. Their secret is the fundamental industrial principle of division of labour.

You don’t have to meet the author of a textbook in order to learn from it because regular classroom teachers can explain the difficult points perfectly well. Similarly, tutors in distance education systems do not have to be the people who designed the independent learning materials.

The open universities cut costs by using part-time tutors who specialise in this function, often alongside a full-time job elsewhere. They also raise quality by giving these tutors special training so that they are actually better at providing interactive support than the authors of the independent materials might have been.

This interaction does not have to happen face to face. There is now abundant evidence of the effectiveness of interaction by phone, by e-mail or on the web, which also makes things more convenient for the student.

The essential secret is to break the educational processes of teaching and learning into their component parts and then to concentrate on making each part as good and as cost-effective as it can be.

Interaction through independent media

The big question is whether, after all the technological developments of recent years, effective interaction can happen using what I have called independent media, notably computers, without having to involve human tutors all the time.

I think the honest answer is not yet, at least on any useful scale. Certainly, through e-mail and websites, students can access answers to frequently asked questions and contact other students for help. However, truly intelligent computer-based tutorial systems, which reflect your whole history of interaction with them when they answer you, are still rare and expensive. In any case, most people, when they are learning, actually like being in touch with other people some of the time.

Applying this to Africa

So where does all this leave us in the context of Africa? First, I reaffirm that distance education is highly relevant to Africa. When I cite the big open universities as examples of success you can legitimately respond that they have the benefits of operating at scale. It is clear that an Indira Gandhi National Open University, with more than a million students, has an advantage when it comes to getting costs down and quality up. However, there are also great opportunities for Africa in distance education if you apply the various principles that I have outlined.

First, Africa does have the potential for some large-scale operations. The University of South Africa became one of the world's first mega-universities when it passed the 100,000-student mark. The new UNISA, made up of Technikon SA, Vista University and the old UNISA now has 200,000 students. We might also note that in South Africa the majority of all Africans engaged in higher education are studying through distance education. I expect the re-emerging Nigerian Open University to join that club before long. The Zimbabwe Open University was developing extremely well until the current difficulties and seems to be surviving better than the traditional universities in that country. Many African countries, even those with modest populations, have such a low participation rate in higher education that there are huge numbers of people waiting for the chance for higher learning.

Second, the costs of independent learning media are dropping. Documents on the web are not always an adequate substitute for real books, but

the costs of distributing knowledge are going down. Both UNESCO and the Commonwealth of Learning are trying to contribute to this trend by encouraging institutions around the world to make their courseware and learning objects freely available on the web for others to use and adapt after giving appropriate credit. This will be an important resource for the various virtual universities that will appear, such as the African Virtual University and the Virtual University for Small States of the Commonwealth that COL is developing. I am sure that there are thousands of Africans who would welcome the opportunity to be tutors in these systems.

Third, a particularly important application of distance education in Africa is teacher education, both for initial and in-service training. The number of teachers that Africa needs to train and retrain simply cannot be achieved by conventional methods and institutions. Furthermore, teacher training has been shown the world over to be a particularly effective application of distance education. It has the added benefit that teachers trained or retrained by these methods will understand the principles of distance education and be equipped to introduce educational technology into the schools as it becomes available.

I am proud that COL, through my colleague Professor Mohan Menon who is present with us, is currently helping Zambia to design and implement a distance learning system for the in-service training of teachers.

Fourth, I urge that we do not let the digital divide discourage us. Certainly, the rich countries have more computing equipment. However, successful and cost-effective applications of computers for teaching and learning in schools are still pretty rare anywhere. Africa will have plenty of time to catch up provided that African educators grasp the essential dynamic that has allowed distance education to create a revolution in education. That dynamic relies more on clear thinking and good organisation than it does on electrons and broadband links. The challenge is to bring to education the principles of specialisation, division of labour and teamwork that underlie the huge productivity gains seen in other areas of human enterprise in recent decades.

Distance education is the clearest and most successful application of those principles to education. That is why it has created a revolution by breaking open the iron triangle that has put education in a straitjacket of inadequate access, low quality and high cost for too many years.

That is why distance education is so relevant to Africa and Zambia today.

*The key to
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Public Lecture

Windhoek, Namibia | 29 August 2005

ODL in an International Context: Trends, Prospects and Challenges

*By: Sir John Daniel & Asha Kanwar, Commonwealth of Learning
& Stamenka Uvalić-Trumbić (UNESCO)*

Introduction

Thank you very much for the honour of inviting me to give this public lecture during my visit to Namibia. It is very good to be back in your country, which I last visited at the beginning of last year when I was Assistant Director-General for Education at UNESCO. At the time I was most impressed by the work of Namibia Polytechnic and it is a pleasure to be part of your 10th anniversary celebrations.

Dr Jan Alberts suggested the title Open and Distance Learning (ODL) in an International Context: Trends, Prospects and Challenges. This suits me nicely. With the help of two co-authors I want to focus on a manifestation of open and distance learning which is at the same time a trend, a prospect and a challenge.

That manifestation of ODL is cross-border education, sometimes also known as transnational education. I shall ask the simple question, what does cross-border higher education mean for the developing world? I have prepared this public lecture with Asha Kanwar, my colleague at the Commonwealth of Learning who leads our work in higher education, and my former colleague Stamenka Uvalić-Trumbić, of UNESCO's Division of Higher Education.

We shall begin by asking what cross-border higher education is. Then our key question is whether cross-border higher education can help developing countries provide higher education for their citizens. To do so it has to meet three challenges: the three 'A's of accessibility, availability and affordability.

So we shall first examine trends in higher education by recalling the Declaration of the 1998 World Conference on Higher Education. This will set the scene for looking at the reality of cross-border HE in three very different developing countries on three continents: India, Jamaica and Sierra Leone. We shall conclude from these cases that cross-border HE is today making a negligible contribution to the provision of higher education that is accessible, available and affordable in developing countries.

How might this unfortunate situation change for the better? The work of C.K. Prahalad, in his book, *The Fortune at the Bottom of the Pyramid*, provides some pointers. They challenge cross-border education radically to change its cost structures and approaches in order to serve millions of people who are now deprived of higher education.

How might such radical changes occur? The electronic delivery of services is changing business models dramatically. Electronic delivery could transform cross-border HE – provided that it exploits the breakthrough

of open source software in the management of learning and the use of learning objects.

Finally, assuming that cross-border providers can rise to the challenge, governments will have to create quality assurance and accreditation frameworks for some potentially very large providers. We shall point to recent work by UNESCO and the OECD to show how they could do this. That is the plan. Now back to the beginning.

What is cross-border higher education?

First, what is cross-border higher education? UNESCO and the OECD, in their *Guidelines for Quality Provision in Cross-Border Higher Education*, state that:

'Cross-border higher education includes higher education that takes place when students follow a course or programme of study that has been produced, and is continuing to be maintained, in a country different from the one in which they are residing. Cross-border higher education may include higher education by private and/or for-profit providers.'

Clearly the term 'cross-border' implies an acceptance of national borders. This in turn implies recognition of the roles and responsibilities of national governments within their jurisdictions for overseeing the national HE system. The border is also a symbol for the special political, social and cultural identity found within the national space.

National sovereignty over higher education has been reinforced by the General Agreement on Trade in Services (GATS) of the World Trade Organisation. The prospect of trade in higher education services has alarmed some academics and heightened awareness – and also fear – of cross-border HE, which is clearly a spin-off of globalisation.

Some worry that cross-border higher education, like other manifestations of globalisation, will have a harmful impact, on developing countries.

WHAT IS CROSS-BORDER HE?

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UNESCO/OECD Guidelines

Cross-border higher education can originate from various sources, not just from conventional or open universities, but also from media companies, multinational companies, corporate universities, networks of universities, professional organisations, and IT companies¹.

The GATS, the General Agreement on Trade in Services, recognises four modes of trade. First there is consumption abroad, where students travel to another country to study, as all three co-authors of this paper once did. Second, there is the presence of natural persons, which in academic terms means visiting scholars or teachers. Although people cross borders in both cases, neither of these traditional forms of academic exchange falls within the UNESCO/OECD definition.

That focuses on the other two forms of trade, defined by the GATS as cross-border supply and commercial presence, but better known to us as distance education and the establishment of branch campuses. These are the forms of cross-border higher education that have created a polarised debate by raising fears of cultural imperialism and loss of sovereignty.

This is the debate that I want to engage with you. What does cross-border higher education mean for developing countries? Could it not be that cross-border education might help developing countries to address the huge challenge of expanding higher education? At a time when age participation rates (APR) in HE in the industrialised world approach 50% or more, APRs in many developing countries are still in single figures. Cross-border higher education could, in theory, help to increase access and keep in the country some young people who might otherwise migrate abroad to study and stay there.

What is the reality? First, what are the priorities of developing countries for higher education? Second, what does the evidence tell us about the contribution of cross-border HE to these priorities?

Priorities for Higher Education in the Developing World

The most comprehensive statement about the priorities for HE in the developing world came from UNESCO's 1998 World Conference which attracted 4,000 people – including 130 ministers – from 182 countries.

The Conference adopted a World Declaration on Higher Education for the Twenty-first Century and a Framework for Priority Action for Change and Development in Higher Education.

These proposed an international agenda for development that stressed the core missions and values of higher education; notably equitable access, the advancement of knowledge through research, and the need to better define long-term options for higher education in promoting relevance and quality. The Conference concluded that higher education had to embark on the most radical shake-up in its history.

For the developing world the challenge begins, as it usually does, with demography. Forecasts indicate a population of 7 – 8 billion people in the developing countries in 2025 - more than half of them young people.

We shall conclude from these cases that cross-border HE is today making a negligible contribution to the provision of higher education that is accessible, available and affordable in developing countries.

We have already crossed the threshold of 100 million students worldwide, and numbers are forecast to grow to 125 million before 2020. But this forecast may be too modest. China has recently doubled enrolments in higher education in a short period. Today the five largest national systems of higher education (China, U.S.A., India, Russia and Japan) account for 53.1 million students, which is more than half the world total.

The challenge of absolute numbers is made worse by the great discrepancy between the proportions of people in developing and developed countries who have access to higher education. 40-50% age participation rates are becoming the norm in developed countries, whereas in some developing countries, especially in sub-Saharan Africa, APRs remain below 5%.² Yet people in developing countries want higher education.

Furthermore, here in Africa we have seen a strong renewal of commitment to HE in recent times. As President Mbeki of South Africa said late last year: '...our entire continent remains at risk until the African university, in the context of a continental reawakening, regains its soul'.

Can Cross-Border HE help?

This brings us to the key question: can cross-border higher education help meet the challenge of rising demand? Or will cross-border higher education, like the failed expectations of the dotcom frenzy, become a casualty of too much hype and too little performance?

History is instructive. In the 1980's many low-end American universities established branch campuses in Japan, but because of lack of interest from the locals they 'quietly folded their tents... and melted away'. South Africa was likewise an attractive destination for foreign providers in the mid 1990's. But today, of the 38 foreign providers who moved in, only two survived South Africa's strict new accreditation procedures .

Let us look at the cases of three other countries, on three continents, that are positioned at various points on the development spectrum: India, Jamaica and Sierra Leone

Despite having the third largest HE system in the world³, India can only provide access to 7% of the 18-23 age group. For India to catch up with its neighbours Thailand and Singapore that have APRs of 20% and 34% respectively, it has to find cost-effective mechanisms for expanding access.

Open and distance education is a good way of reaching out to large numbers and today 23% of all HE enrolments in India are in distance education; specifically in 11 open universities and 102 dual-mode institutions. The government's target is that by 2010, 40% of all HE participation will be through distance education. The number of privately managed institutions is also increasing in India, especially in professional disciplines.⁴ However, on current trends the target of 14 million students, or a 10% APR by 2007/8, will elude India. Yet the additional market of 5 million students should be tempting for major providers. Could cross-border provision respond to this market?

The number of cross-border providers in India has indeed increased from 27 in 2000 to 114 in 2004. But note that a third of these institutions are not recognised or accredited in their country of origin. An equal number of their Indian collaborators are not part of the formal higher education system either.

Even when the foreign providers are universities, they are not in the premier league and have lowly reputations in their own countries. Neither branch campuses nor franchise agreements have had much success. The only exceptions are 61 twinning and articulation arrangements that allow students to go to the source country in the final year and stay on for employment purposes.⁵ With such figures it is little wonder that cross border HE is a non-issue in India. The enrolments it attracts are negligible in the Indian context

In Jamaica the existing tertiary institutions cater to 14.7% of the conventional age group. The average APR for the Caribbean region is 18%.⁶ Jamaica has announced plans to double access to tertiary education by 2010 in three ways: by increasing the provision of distance education; by expanding franchised qualifications from the University of the West Indies to local community colleges; and by collaboration with universities outside the Caribbean.⁷ Existing unmet demand opens the door for cross-border tertiary education and 31 providers are already in the country.⁸

Sierra Leone, a country recently emerged from conflict, has one university (with four constituent colleges) and six teacher training colleges and polytechnics. As well as these public institutions there are private technical and vocational institutions.

The total number of enrolments at the University of Sierra Leone was 5445 in 2002-3; with 5394 in the six other tertiary education institutions put together.⁹ The gross tertiary enrolment rates for Sierra Leone are 2.0%.¹⁰ Comparing this with the 4% enrolment figure for Africa, the National Education Master Plan rightly envisages the need for the 'reorganization and expansion of tertiary education by 2007'. Enrolments are already growing rapidly.

Despite limited facilities and an infrastructure wrecked by eleven years of Civil war, Sierra Leone can also be an attractive destination for cross-border providers. Some are already in the country, such as the little-known St Clement's University, an offshore company registered in the Turks and Caicos Islands in the Caribbean, which offers courses in Management, Information Technology and Development Studies. Providers from the UK, USA and Australia advertise distance learning courses at degree level in the local papers.

What common features emerge from these three country summaries? First, huge unsatisfied demand calls for expansion of access. Second, for-profit cross-border providers are active. Third, these providers are of low quality despite the high costs of their offerings. They tend to cater to an affluent market and have low numbers of enrolments.

Data regarding enrolments in cross-border provision are hard to find and are usually underestimates. The UK's HE Statistics Agency, HESA, recorded

101,645 enrolments of UK transnational delivery (by franchise, branch campuses, and distance learning) in 191 countries across the world in 2002-3.

Even if the absolute numbers have a margin of error, looking at their distribution across the world probably gives a fair picture of where cross-

border providers concentrate their efforts. The highest numbers of cross-border students were living in well-developed countries: as measured by their rankings in UNDP's Human Development Index. The largest UK numbers were found in Hong Kong SAR (26th place in the HDI) followed by Singapore (28th) and Malaysia (58th). These are also the main markets for Australian cross-border providers. By contrast, enrolments were 1203 in India, 777 in Jamaica and less than 100 in 30 African countries taken together (excluding South Africa).¹¹

We conclude that cross-border enrolments in countries with low rankings on the Human Development Index are minimal. Indeed, given the unmet demand in those countries, they are practically negligible.¹² The obverse of the coin is that there is now significant and successful cross-border activity among the developed countries. Yet cross-border provision from the developed to the developing world is insignificant.

Our title asked 'what does cross-border higher education mean for developing countries?' From this evidence no developing country should fear cross-border higher education. Instead they should be angry that a possible contributor to the expansion of their higher education systems is not delivering. What can be done to make cross-border HE more relevant?

Can Cross-Border HE do better?

One encouraging sign is the growing exports from one developing country to another. The University of South Africa, UNISA, seems set to become a major provider across Africa – as you in Namibia know very well – and India's Indira Gandhi National Open University, IGNOU, is already targeting niche markets of the Indian diaspora in the Middle East and elsewhere. Cross-border activities now show a north-south divide; but can they become a global phenomenon?

For cross border provision to help the developing world it needs a new approach that addresses the three 'A's' of accessibility, affordability and availability.¹³

Accessibility

Access to quality higher education continues to be a major challenge in the developing world. Decreasing public spending and increasing demand have set the stage for a diverse range of providers, including rogue providers. Countries like India with large and well-developed distance education systems will not provide easy and sustainable pickings for overseas providers. For different reasons, neither will countries with inadequate infrastructure and low bandwidth such as Sierra Leone.

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That is because access to higher education also requires access to the technology and allied infrastructure through which education is delivered.

Only 1% of African people are online and 50% of them are in South Africa. Access to technology in Bangladesh is 0.1%. So what success can online provision have in sub-Saharan Africa and South Asia? Despite the great need to throw open access, cross-border education has yet to capture the imagination of the developing world. Today it is peripheral and insignificant.

Affordability

Costs are a major deterrent. Yoshida¹⁴ has shown that conventional distance education is well developed in Asia and costs much less than traditional education. Foreign providers with higher costs cannot compete with local education provision. To succeed, cross-border providers must devise a business model that can take them beyond the elite to reach out to the masses.

The early history of the African Virtual University illustrates this point. At first it delivered programmes by satellite sourced from outside the continent at high cost. This proved not to be viable.

Eventually the AVU had to establish itself in Africa and create partnerships with local universities in order to expand its enrolment. The presence of a market does not ensure consumption, because products have to be designed so that needs are converted into sustainable demand.

India has transformed higher education from an elite system to a mass system aimed at the needs of a vibrant democracy. Instead of bucking this trend, overseas providers should flow with the mainstream of national developments. We shall suggest how they might do this in a moment.

Availability

The subjects offered by cross-border providers are limited and liberal education is often a casualty of the demand for more market-driven courses. Programmes are mostly in the areas of Business and Information Technology. Students from different cultures and linguistic backgrounds study the identical courses as in the country of origin, with no recognition of social, cultural and ethnic diversity.

When asked to identify its needs in tertiary education, Samoa listed 'agriculture, health and social development'. St. Kitts and Nevis says that its priorities include 'courses built on culture, heritage, health care, teacher training, natural environment and industries'.¹⁵ Cross-border education provision will become relevant only when it endeavours to respond to such country priorities.

Responding effectively requires strong partnerships between the overseas provider and local institutions, not just in logistics, but more importantly in determining the content, its relevance and the methods of delivery. For example, the University of the West Indies offers a programme in Tourism and Hotel Management, which is a priority area for the region. The cross-border providers do not.

Similarly, a national publicly-funded institution in Sierra Leone offers Peace Studies and Conflict Resolution, not the overseas providers. Unless providers take national priorities into account, they will always be vulnerable to the charge of 'academic dumping'. Cross-border providers could identify niche areas – just as the Tamil Virtual University has done by offering Tamil language courses to the Tamil diaspora from Kuala Lumpur to California.

Cross-border Education at the Bottom of the Pyramid

Cross-border education should learn from the findings of C.K. Prahalad and his colleagues about 'The Fortune at the Bottom of the Pyramid'. Addressing themselves to multi-national corporations, they point out that there are four billion poor people in the world who aspire to better lives. They urge these corporations to look at their globalisation strategies through a new lens of inclusive capitalism since, 'for companies with the resources and persistence to compete at the bottom of the world economic pyramid, the prospective rewards include growth, profits and incalculable contributions to humankind' (P&H, p1).

Looking at these four billion people through the lens of tertiary education, we note that if they were to achieve an APR of 35% there would 150 million additional students to serve, far more than total current enrolments worldwide. Higher education would, however, face the same challenge as business in serving these people.

It would require 'radical innovations in technology and business models'; changing from the ideal of "bigger is better" to 'an ideal of highly distributed small scale operations married to world-scale capabilities'; and 'helping people improve their lives by producing and distributing products and services in culturally sensitive, environmentally sustainable and economically profitable ways'. Business has found that it requires multiple partners to operate successfully

in this environment. Likewise higher education providers would need partnerships with local government authorities, communities, NGOs and financial institutions.

Fortunately one development is greatly helping both business and education to serve the poor. The growing availability of telephone and Internet connections is uniting the world's rich and poor and transforming the digital divide into a digital dividend. Communication links are altering dramatically the way that poor villages in the developing world function. There is a huge opportunity for HE providers, including cross-border providers, to develop new business models and bring education to millions.

By establishing economies of scope they would be able to reach out to the 'Bottom of the Pyramid' and achieve economies of scale. As Prahalad says 'We have proved to the world that if you build a market for the rich, the poor wouldn't participate. If you build a market for the poor, the rich would participate'.¹⁶

Just as cheap shampoo sachets and brand names can appeal to the poor constituencies, low-cost, high quality and need-based education can reach out to the millions that live below the poverty line but still aspire to

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education and training for a better future. Costs are critical in developing economies and cross-border providers must address that challenge.

New Technologies for Cross-Border Education

Fortunately, a series of developments in the ways that technology is used hold the promise of making the dramatic reduction in educational costs that is required. These developments combine steadily widening access to information and communications technology, which we call connectivity, with new ways of using connectivity in education. We refer not simply to eLearning, but to the blossoming of the Free Open Source Software movement and its application to eLearning.

Institutions wishing to introduce eLearning now have available a range of open source Learning Management Systems, which is the term for software platforms that support eLearning. Even more importantly, teachers and institutions around the world are creating and sharing learning materials and courses for use on these platforms, which are known generically as 'reusable learning objects'.

This combination of expanding connectivity and the growing reservoir of open education resources is a revolution and you can learn more about it on the COL website. (See, for example, <http://www.col.org/lor/index.htm>). Previously the use of technology in developing countries often resulted in a transfer of wealth to the developed world: the rich got richer and the poor became poorer. Those days could soon be over. This is not the place to explore in detail how greater connectivity allied to open education resources could reduce the cost and expand the availability of education. In Namibia you have a wonderful example of that change taking place in SchoolNet Namibia.

We believe that this is a route that could open up education to the billions of people at the bottom of the pyramid. Much of this work will, rightly, be done by local providers. However, such a huge market will most likely spark a massive expansion in cross-border provision. How will governments ensure the quality of such provision on their territories? To this we now turn.

The Future of Quality Assurance in Cross-Border Higher Education

Cross-border higher education will not help developing countries unless it is accessible, available, affordable, relevant, and of acceptable quality. Many developing countries lack quality assurance mechanisms. Where they do exist, as in India, they are not properly equipped to cope with cross-border provision. Even though an impressive national agency like the Higher Education Quality Committee in South Africa deals with foreign providers and approves the setting up of branch campuses, distance education from abroad still eludes its grasp.

South Africa has 1408 such students, mostly with UK providers, but as yet there is no procedure for monitoring and quality assuring their programmes. Distance education and online provision is hard to identify and document.

So how does one protect students from dubious deliverers and spurious suppliers? Let us look at the three countries we spoke of before: India, Jamaica and Sierra Leone.

India has the National Assessment and Accreditation Council as well as the National Board of Accreditation to accredit its HE and professional institutions. The All India Council for Technical Education, which is responsible for professional institutions, has developed regulations to control the entry of foreign providers into the market for technical education. They require the foreign institution to be accredited in its home country and to give an undertaking that the diploma or degree will be recognised in its country of origin. Furthermore, the foreign provider must partner with an accredited Indian university or institution. India's University Grants Committee has not yet issued its regulations for foreign HE institutions.

The University Council of Jamaica has a dual mandate: it both accredits and has the power to confer degrees and diplomas. All tertiary institutions operating in Jamaica must register with it. Registration includes assessing the staff and support services both in Jamaica and, through a visit to the home campus, in the country of origin.

The Tertiary Education Council in Sierra Leone has the mandate to ensure standards. It hopes to evolve into a Quality Assurance Agency which could possibly regulate the entry of foreign providers such as St Clement's University.

These examples show that much of the developing world still needs to develop regulatory mechanisms for protecting both systems and students. In particular, existing regulations have difficulty coping with the multiple manifestations of distance education.

How can national bodies be equipped to deal effectively with this increasingly complex and diverse phenomenon? What is the role of regional and international bodies in maintaining quality provision? What should be the coordination mechanisms between national and international bodies? How will information be generated and shared?

This demanding environment is the context for the joint work of UNESCO and the OECD on Guidelines for Quality Provision in Cross-Border Higher Education.

You know far more than I do about the situation in Namibia, but it seems to me that your country has made a good start in answering some of these questions. I understand that the Namibia Qualifications Authority has a list of 141 private and foreign providers that have applied for accreditation. Although the private providers are Namibian many of their courses, which are mostly in IT, Business and Administration come across the border from elsewhere. The Namibian Qualifications Authority has the mechanisms in place, through its fourteen criteria for accreditation, to ensure that quality is not compromised and that students are not defrauded.

To help other countries address these challenges, in the specific context of cross-border provision, UNESCO is mapping needs and current initiatives for capacity building in the related domains of quality assurance, accreditation and the recognition of new types of qualifications for the labour market.¹⁷

This mapping reveals major regional variations. All regions display an emerging concern for quality assurance that, sadly, is not matched by adequate human, institutional and financial resources. Moreover, the terms

quality assurance, accreditation, registration, licensure, and qualifications recognition are often confused.

Nonetheless, developing countries feel that it is urgent to develop a common understanding of terms and to gain better insights into the different models, criteria and procedures for quality assurance. This will enable them to develop policies for inclusion in national reforms and legislation.

The UNESCO review identified some key preconditions for efficient capacity building in quality assurance. Support from government is essential, as is involving the principal stakeholders at the national level, notably higher education institutions, academic staff and students. The process must also embrace new types of provision of higher education, such as private

institutions, distance education, and cross-border operations. Above all, capacity-building must have a long-term perspective.

A trend to greater regionalisation, accompanied by the ineluctable thrust towards global interconnectedness,

is clearly reflected in all reviews. Thus Asia and the Pacific see the need for a nodal point for research and development, as well as a registry for regional expertise. Sub-Saharan Africa has a regional capacity-building strategy employing South-South co-operation so that more sophisticated systems can coach their less advanced neighbours. In the Caribbean, through CARICOM, and in Southeast Europe, there are proposals for the establishment of sub-regional accreditation agencies, even though national sovereignty is jealously guarded in both places.

In all this an overriding prerequisite is to change mentalities by promoting a 'quality culture' that can overcome the traditional resistance to change from the academic community. The continuous involvement of key players and consistent government support are essential for this.

The big challenge for UNESCO and other international organisations is to develop a global response to such diverse regional and national requirements, knowing that the interests of local, regional and global educational communities converge on some topics and diverge on others. The changing role of the nation-state, multiple identities, new dimensions of multiculturalism and international education¹⁸ all make fresh demands on international organisations to redress inequalities and shape new 'supranational policy', through regulation and redistribution.

Cross-border higher education must be placed in the larger context of policy formulation within the "complex web of relationships that extend beyond the nation-state" and embrace other emerging terms and concepts such as 'supranational policy' and 'cosmopolitan democracy'¹⁹.

This demanding environment is the context for the joint work of UNESCO and the OECD on Guidelines for Quality Provision in Cross-Border Higher

Education. It arose from UNESCO's on-going work of reviewing the regional conventions on the recognition of traditional qualifications in order to adapt them to new realities.

The Guidelines - which will be further discussed at the 33rd session of UNESCO's General Conference in October, recognise the importance of national authority and the diversity of higher education systems. They present higher education as a vital means for expressing a country's linguistic and cultural diversity, nurturing its economic development and strengthening social cohesion. In addressing six major stakeholders in higher education²⁰ the guidelines provide examples of good practice that stakeholders can examine and adapt to their own regional and national realities.

The effectiveness of the Guidelines largely depends on strengthening the capacity of national systems to assure the quality of higher education. They are already used by some countries, such as Nigeria, for developing national guidelines in QA and may also be of relevance for Namibia in the same way. Further support to capacity building in quality assurance carried out by UNESCO, by other multilateral organisations and by bilateral donors will sustain and complement the Guidelines.

Exchanging information among a wide range of stakeholders is a good foundation for capacity-building. It also empowers learners and promotes quality 'literacy' when it is shared with students, employers and parents. Data-bases, publications, knowledge repositories for decision-makers on policy issues in higher education, and electronic forums to promote communities of interest in QA and QR are all part of the process.

The policy debates they generate encourage the dialogue across borders that is a prerequisite for the solid international frameworks of quality assurance that can be catalysts of change.

Conclusion

It is time to conclude. We have asked what cross-border higher education means for the developing world. We answer that developing countries need not fear cross-border higher education because for them it is, as yet, insignificant. They ought instead to urge cross-border providers to help them, particularly in catering to the educational needs of their poorest people.

To respond to such a call cross-border providers will need to dramatically cut costs, improve efficiency and become more relevant. Fortunately, combining expanding connectivity with open education resources could allow them to do just that. To prepare for the subsequent explosion of enrolments, countries and regional bodies should strengthen their quality assurance systems. In this, the guidelines for cross-border higher education recently developed by UNESCO and the OECD will be of great service.

It has been a privilege to address you and I hope that our examination, in a global context, of an important trend in open and distance learning has connected in some way with your own concerns and challenges here in Namibia.

C.K. PRAHALAD

The Fortune at the Bottom of the Pyramid

'helping people improve their lives by producing and distributing products and services in culturally sensitive, environmentally sustainable and economically profitable ways'

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Towards Education for All: The Critical Role of Open and Distance Learning in National Development

By: Sir John Daniel, President, Commonwealth of Learning

Introduction

Thank you for the opportunity to address this NOLNET [Namibian Open Learning Network] conference. I congratulate NOLNET on the productive way in which it brings together all the ODL players in Namibia. Other countries in the region, where ODL is still fragmented, could learn from you.

Your conference theme, Towards Education for All: the Critical Role of Open and Distance Learning in National Development, resonates very strongly with me. During my three years at UNESCO, from 2001-2004 leading the campaign for Education for All was at the centre of my work and brought me to Namibia early last year. It's good to be back wearing my new hat.

Mention of UNESCO leads me to say how sorry I am that my former colleague Claudia Harvey, the Director of the UNESCO Cluster Office here in Windhoek, is out of the country at the moment. She is a colleague that I esteem greatly.

Since I moved to the Commonwealth of Learning I continue to be preoccupied by the drive to achieve Education for All. However, given the special mission of COL my focus has broadened in one way and narrowed in another. It has broadened because COL, like many of its sister agencies, is directing much of its work towards the Millennium Development Goals. But it has narrowed because COL's mission focuses on the use of technology, especially the technologies and approaches of open and distance learning, rather than on the whole gamut of educational provision.

Against this background I shall take your conference theme as my title with one modification. I shall talk about Learning for All: the Critical Role of Open and Distance Learning in National Development.

In this address I shall place COL's work in the context of national and world development. Let me begin by asking what development is. We use the word often without always stopping to ask what we mean by it. This will lead me to describe the framework in which the international community is trying to promote development, in particular the Millennium Development Goals agreed by the United Nations.

As we examine these goals, familiarly referred to as the MDGs, we shall find that they call for action on a variety of fronts. But what they all have in common is that their achievement will require a massive increase in human learning. This is self-evident in the case of the goals related to education, but it is equally true for the health goals, the poverty goals, the hunger goals and all the others. This is a major challenge, because conventional

approaches to education, training, teaching and learning simply cannot cope with the scale of the challenge. So what can we do?

In nearly all other areas of human endeavour technology has revolutionised the way we do things over the last three centuries. It has done so at an accelerating pace, with the result that today ordinary people in the industrialised countries have access, at low cost, to an abundance of quality goods and services that previous generations could hardly have dreamt of. It is now time to spread the benefits of this revolution to education, which has historically resisted it. Indeed, in education an insidious link between quality and exclusivity has gained currency. Quality education is often defined by the numbers excluded from it.

In today's world this is nonsense. I shall argue that new approaches, based on technology, have created a revolution in education by making it possible to expand access, improve quality and cut costs – and all at the same time.

But even these early efforts are not enough. Our four billion fellow human beings at the bottom of the economic pyramid do not enjoy most of the comforts of modern life that a minority take for granted. They have been ignored by the multi-national corporations that produce and deliver many of the goods and services that richer people enjoy. They have also, if they live in rural areas, been largely ignored by government services and providers of higher education.

Can we change this bad situation? Can we bring the majority of our fellow inhabitants of the planet into the mainstream? I shall suggest tools for this purpose and show how the Commonwealth of Learning is making a modest contribution to this transformation.

What is development?

So I start with the simple question: what is development? We use the word many times a day with various meanings.

The campaign to alleviate poverty is at the heart of this worldwide enterprise that we call 'development'. Its aims are summarised in the Millennium Development Goals that accompanied the Millennium Declaration made in 2000 by the largest assembly of heads of state and government ever held. First among those goals is a call to reduce the



proportion of people living on less than \$1 a day to half the 1990 level by 2015, that is to say from 28.3% of all people in low and middle-income economies to 14.2%.

That is the goal, and we are making progress towards it. If projected growth remains on track, global poverty rates will fall to 13% – which is less than half the 1990 level – and 360 million more people will avoid extreme poverty. Poverty would not be eradicated, but we would be much closer to the day when we can say that all the world's people have at least the bare minimum to eat and clothe themselves. However, eradicating hunger itself has been slow, with the situation worsening in some regions.

But is the term poverty alleviation strong enough? Ought we not to talk about the eradication of poverty? Indeed, my former colleague Pierre Sané, UNESCO's Assistant Director-General for Social and Human Sciences, likes to talk about the abolition of poverty and makes an explicit analogy with the abolition of slavery. Calling for the abolition of something does not, of course, make it disappear. Some claim, for example, that today more people live in slavery than at any time in human history.

Nevertheless, getting international agreement on the need to abolish an evil creates a stronger moral pressure to match up to the ideal. No one now argues in public that slavery is a good thing. If the pioneers who led the campaign to abolish slavery in the 18th and 19th centuries had talked about the alleviation of slavery, rather than the abolition of slavery, I doubt that they would have succeeded in launching a campaign that became a turning point in our understanding of human rights.

Ought we not then, aim for the abolition of poverty, not merely its alleviation? Is this possible? You can answer the question in two extreme ways and each presents a problem.

The first extreme answer is that the abolition of poverty is possible, because if the world's wealth were shared evenly then poverty would disappear. The problem with that answer, quite apart from the fact that people are unlikely to share their wealth evenly, is the built-in assumption that wealth is a zero-sum game. I mean the assumption that there is just so much wealth to go around and the challenge is to share it. But that is not true. Wealth is something that people create; they don't have to take it from someone else. Singapore is perhaps the most startling example of wealth creation in our lifetimes. Fifty years ago Singapore was a poor equatorial swamp. Today it is one of the world's richest countries.

The second answer is that the abolition of poverty is not possible. Jesus Christ said, 'the poor you will always have with you' and other prophets and thinkers have said the same. Poverty is part and parcel of human nature. But this need only refer to relative poverty. No matter how equal the opportunities before them, people will tend to become unequal. In all societies some people will be richer than others. This is not, however, what the first Millennium Goal means by poverty. It refers to the abject poverty that sees people dying from starvation in a world of abundance.

Abolishing that kind of poverty should be a realistic goal.

Development – what is it?

But does the word development have a deeper meaning than simply reducing poverty? The Nobel prizewinner Amartya Sen has given us a way of thinking about development that is simple, powerful and inspiring.

For him development is about freedom. The measure of development is the degree to which the freedom of people is enhanced. That means many kinds of freedom. First, it means freedom from hunger and freedom from abject poverty. It also means freedom of expression and religion. It means political freedom. On this definition of freedom, the achievement of the Millennium Development Goals becomes a by-product of something much

more uplifting, the release and flowering of the human spirit.

And there is more. For Amartya Sen freedom is not only the measure of development but also the means of development. That is because the surest route to development is the free agency of people. It is people that develop families, communities, societies and nations. Free people, acting as free agents, do it better than people who are not free.

So development and freedom feed on each other. Development enhances the freedom of people and free people enhance development. It is a virtuous circle.

Development – how to achieve it?

The question then becomes: 'how do you start the process?' How do you get this virtuous wheel to start turning? I shall not surprise you if I claim that human learning is the most effective mechanism for development. I wonder if you recognise this statement:

Education also improves the quality of our lives by helping us develop our abilities. As we learn more about our environment and the threats to it, we become better able to protect and preserve it. As we become better at identifying and solving problems, we also become better at creating jobs and increasing our income. As we develop our own ideas and technologies, we become less dependent on imported innovations and the conditions that often accompany them. As it helps us become more successful in setting and pursuing our own goals, education is liberating, both individually and socially.

That comes from your own Namibian policy framework for education, *Toward Education for All—a Development Brief for Education, Culture and Training*.

Your statement implies that development, just like the life of humankind in society, is a complex process that depends on many factors. It is not one-dimensional.

Yet sadly, the story of international development over the last thirty years has often been a search for one-dimensional formulas: a quest for short cuts to the creation of prosperous societies with minimum effort.

Usually those formulas were economic, such as industrial expansion, import substitution, infrastructure development and, of course, the late and unlamented nostrum of structural adjustment. Some of these formulas

The challenge is to enable smallholders and farmers to learn their way to better livelihoods.

worked, some of the time. But the lesson we learned was that there is no short cut to development; no magic bullet that can be fired at the problem of poverty. Developing countries need to get many things right at the same time. Furthermore, the basis of contemporary economies is moving, at different paces in different places, from land to capital and then from capital to knowledge.

I am not advocating human learning as a one-dimensional solution either. A look around the world shows that education alone is not enough. You can all think of countries, or states within countries, that have – or once had – very good and comprehensive education systems that do not – or did not – translate into obvious prosperity. The reasons for this are – and were – diverse. Their economies may be organised in a perverse fashion. Their politics may be a mess. Neighbouring countries may be applying sanctions. The terms of trade may be stacked against the country's products. Development requires addressing these weaknesses too.

Learning to achieve the MDGs

However, learning remains fundamental. Let me take three of the Millennium Development Goals as examples and make two points. The first is the necessity of expanding learning. The second is that conventional approaches cannot cope with the scale of the challenge.

Hunger and Poverty

The first MDG, as I just noted, calls for halving by 2015 the proportion of people living on less than a dollar a day and those who suffer from hunger. Most of those people live in rural areas.

They are the millions of farmers and smallholders who are the basis of the village economy. We used to call them subsistence farmers, but the fact is that almost none of them can subsist on what they grow themselves. They have to trade.

All over the world there are institutions and experts who have good information, based on careful research, which could improve the lives of these farmers. It may be information about better ways of growing traditional crops; about ways of growing new crops; or about better ways for farmers to link to markets. There are lots of farmers who could benefit by learning from this information and plenty for them to learn about. The problem is putting the two together.

There are public servants, usually called agricultural extension officers, whose job is to bridge this gap and inform farmers of these possibilities. Sadly, however, there are too few of them. I was in Jamaica recently, where each extension officer is responsible for many hundreds of farmers scattered over wide areas of difficult terrain. The system is not working.

Primary education

The second MDG calls for all boys and girls to complete primary school by 2015. Today over 100 million children never go to school and as many again leave school without learning any useful basics. Countries in South

Asia and sub-Saharan Africa need both to expand and to improve their school systems. For a poor family there is an economic cost of sending a child to school, even when school is nominally free. Parents will not pay this economic cost unless they believe that schooling will help their offspring.

Kids need teachers. There are 20 million teachers in the Commonwealth. Many of them need further training to be effective and achieve quality learning in the classroom. Millions of new teachers must also be trained as countries seek to expand education with a teaching force that is shrinking through retirement, migration and HIV/AIDS. Training and retraining of teachers is the major bottleneck to the achievement of universal primary education but conventional teacher training methods cannot expand to meet the challenge.

Most developing countries will struggle hard to meet the MDG target for primary education and many will miss it. Yet even partial success will stimulate a demand for secondary education which the poorer countries simply will not be able to satisfy in conventional ways. New ways of expanding secondary education are needed.

Health

Health has three Millennium Development Goals. One aims to reduce by two-thirds the mortality rate for children under five by 2015. A second calls for reducing by three-quarters the number of women dying in childbirth by the same date. The third targets the arrest and reversal of the spread of HIV/AIDS, malaria and other diseases. It would be silly to say that the health goals can be achieved without improving health services. Reducing maternal mortality, for instance, means training and deploying many more birth attendants.

However, there is much that people can learn to do for themselves. If everyone learned to wash their hands five times a day the health of the world would be transformed. It is much harder to become infected with HIV than to catch a cold, so people can learn to avoid it. Once again, however, conventional teaching and learning systems are not up to the challenge.

How can technology help?

I am pleased to say that the Commonwealth of Learning is helping to expand and improve learning in each of the areas I mentioned. Two months ago I was in Jamaica, where we are helping farmers to learn how to improve their livelihoods. In January I was in The Gambia, where the government believes that we have helped to reverse the spread of HIV/AIDS.

How do we do it? We do it by using technology to expand the scope and scale of human learning. Let me say what we mean by technology before

MILLENNIUM DEVELOPMENT GOALS

- poverty and hunger
- primary education
- gender equality
- health
- environment
- partnership

getting specific. We define technology as the application of scientific and other organised knowledge to practical tasks by organisations consisting of people and machines. I emphasise two parts of this definition.

First, we are not engaged in a futile search for the perfect method of learning. We are applying 'scientific and other organised knowledge'. That can mean tacit knowledge, crafts and organisational experience, not to mention a good dose of common sense. Second, we are living in a world of people and machines. Good use of technology always involves people and their social systems.

A simple and useful way to think about how to combine people and technology in education emerges when we reflect that learning involves two types of activity.

Independent and Interactive Learning

First, there are activities that you as a learner conduct independently, such as reading a book, viewing a TV programme, listening to me speaking now, writing an essay, doing mathematical calculations and working with a computer. Such activities are a major part of learning, and become more important as you progress from kindergarten to a doctoral programme.

Harnessing technology to such activities was the key to the success of the first great wave of increasing access to higher education. Reorganising these independent activities allowed a new type of university, usually called an open university, to use technology to increase access, improve quality and cut costs.

That was because the basic tools of independent learning such as print, audio material, TV programmes, CD-ROMs and computer software cost relatively little to reproduce in volume once you've invested in the first copy. Volume helps to increase access and cut costs. It also allows you to improve quality, because when you produce materials at scale you can afford to make them excellent.

Independent learning is essential and pervasive; but the evidence shows that most learners do not succeed through independent learning alone. Technology must involve people and their social systems. You also need interactive learning activities.

The word 'interactive' is a slippery and widely-abused term. I use it to mean a situation when a student evokes from another human being, be it a teacher, a tutor, or another classmate, a response that is specifically tailored to that particular student.

As you listen to me you are each involved in independent learning. But if you take me aside afterwards to tell me that I don't know what I am talking about, that will be an interactive event for both of us. Other interactive activities might be face-to-face sessions with other students, having your assignment commented on by a teacher, asking questions over the phone, getting a response to a query by e-mail, and so on.

These kinds of activities are vital in helping most people learn. However, they are more expensive to organise because they do not show the economies of scale of independent activities. To make twenty extra copies

of a CD-ROM costs almost nothing whereas adding interactive activities require more people.

The cost of technology

The best way to express this graphically is to show the total cost of a learning system as a function of the number of students involved.

Note two things about independent activities. First, because of the economies of scale, the total cost increases only slowly with increasing student numbers. Second, because the preparation of good materials requires people and equipment, there is a significant initial investment and the curve starts well up on the vertical axis.

Costs show a different pattern for interactive activities. The initial cost is low – a tutor can simply call a group of people together under a tree. But adding more tutors is more expensive than burning more CD-ROMs, so the curve rises more steeply.

I have said that good teaching and learning should be a blend of both types of activity. You can see that by combining independent and interactive activities in different ways you can get different overall cost structures.

*COL is also
using media
empowerment as a
tool for achieving
the health goals.*

This explains the amazing success of the world's open universities, which have achieved high volume with good quality and low costs. The Indira Gandhi National Open University (IGNOU) now has 1.5 million students, accounting for 10% of all university students in India. The UK Open University has only 200,000 students but it is now at fifth place in the UK's national rankings

of teaching quality, just above Oxford. Both these institutions operate with significantly lower costs than conventional universities.

Making it Real

What I have just described sounds rather theoretical. How relevant is the success of the open universities to the basic needs addressed by the MDGs? Let me now root this in reality and illustrate for you how COL blends independent and interactive learning. First, I shall look at the present reality of the Commonwealth of Learning's work on three of the MDGs. Second, I shall look a little further ahead and suggest how we can serve our fellow human beings at the bottom of the pyramid.

Poverty and Hunger

I start with the MDG for poverty and hunger. The challenge is to enable smallholders and farmers to learn their way to better livelihoods. This cannot be a top-down process. It is not just a matter of packaging information in an attractive way, say through a radio soap opera, and pushing it at the farmers.

Communication must operate in two directions, so the first step is to help farmers and smallholders define their own needs. It is vital to work with the farmers so that they identify areas for improvement or change and ask for the information they need. The process must be interactive.

COL is working with institutions in Tamil Nadu, India to put these ideas into practice. After mobilising the farmers we have created a consortium of the local agricultural, veterinary, engineering and open universities to work together to supply the knowledge required in a way that is rooted in the local circumstances of the villages.

Two of the technological links between the farmers and the consortium are community radio and the commercial ICT kiosks that are spreading rapidly in rural India. Commercial involvement is important. Farmers are ready to pay for useful things. Part of the programme involves expanding the presence of the big banks in the villages so as to expand rural credit and use the banks' muscle to improve access to markets.

In Jamaica COL has a different approach. There we are multiplying the impact of the agricultural extension officers by equipping them with video cameras, editing equipment and projectors. We call this media empowerment.

The extension service makes videos, right in the local setting, to show good practice and new techniques. These are then sent out to the farmers and shown on national television. Quite apart from reaching many more farmers than the extension officers could meet in person, these videos, featuring people the farmers know, are more effective than bringing them together for lectures in local centres. They also help to interest young people in agriculture, which is a problem in the Caribbean.

What about Africa in this context? A study that the University of KwaZulu-Natal did with COL's help showed that radio plays a major role in education and extension activities in Africa. Discussions with African partners at a meeting we organised with the Forum for Agricultural Research in Africa (FARA) in Uganda identified critical needs for improving the livelihoods of farming communities.

One priority is to raise the awareness about the potential of ICT for community development. A second is to develop participation through new partnerships. A third is to train people to develop digitised and localised content that can fit into any type of technology whether it be radio, broadband Internet or print.

The partnerships for enabling learning for farming communities should extend beyond conventional educational and research institutions to include all stakeholders: grassroots communities, civil society, the private sector, financial institutions and international organisations such as NEPAD, FARA, and the Consortium Group on International Agricultural Research (CGIAR). We are now discussing such a model in Africa, with appropriate adaptations, in South Africa.

In India nearly all the work in designing and launching this model was done by Indians. Here in Africa we are looking to teams of Africans to make it a reality.

Primary Education

COL's contribution to the expansion of primary education is through teacher training. For example, we are helping a Consortium of Teacher Education Colleges, led by Nigeria, to offer distance learning courses in the Commonwealth Western Africa countries.

In Southern Africa, in Lesotho, COL helped build capacity in the Lesotho College of Education for an in-service Distance Teacher Education Programme for training a large number of untrained teachers in the primary schools of Lesotho. This was essential for the implementation of the government's Free and Compulsory Primary Education policy.

Teaching materials are also very important. We helped to produce 46 modules in Science, Mathematics, Technology and General Education for eight southern African countries (Botswana, Malawi, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe). The Ministries of Education of all 19 Commonwealth countries in the Sub-Saharan Africa now have these materials.

Health

COL is also using media empowerment as a tool for achieving the health goals. To avoid disease people need access to information that they can understand: not just because it is presented in their own language, but because it is rooted in their culture – even if it challenges some of the

habits of that culture. The best way to reflect local modes of thought is to equip and train people to produce the health messages themselves.

That is what the Commonwealth of Learning is doing through its partnership with the World Health Organisation. We train local WHO representatives to expand their impact by using distance education in their work with NGOs. We equipped and trained an NGO in KwaZulu-Natal Province of South Africa to use video to reach far greater numbers with health information and training, notably about the problem of HIV/AIDS stigma. Similarly, mobile units with

projectors and generators use radio and television to deliver information about malaria to the villages of Sri Lanka.

In The Gambia we have extended an excellent programme initiated by the Nova Scotia Gambia Association. They have helped to train 30 peer health educators, 15 boys and 15 girls, in each of the 135 secondary schools in the country. By equipping this NGO with video equipment and training local people to use it, we have created a system of 'village cinema'.

The young people produce skits about HIV/AIDS and malaria which are recorded on video. In each village a sheet is hung between two trees and a video projector is powered by a diesel generator on the back of a pick-up truck. 35% of the population has seen these videos and the government says that they have led to healthier behaviour and a decline in infection rates.

Latest developments

The applications I have described use old and well-tried technologies, and there is nothing wrong with them. The really good news is that the latest technologies make the cost curves even more favourable for access and quality. I refer to two developments in particular.

The first is what we now call connectivity: the linking of people around the globe through the Internet. In terms of my cost curves this does two things.

*... improving
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uniting the world's
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a digital dividend.*

First, because it is so cheap and easy to distribute materials via the Internet, the curve for independent activities becomes even flatter. Second, because it makes written communication between people so much easier, faster and more efficient, it also flattens the cost curve for interactive activities.

The second new technology we call Open Educational Resources. You know about the free open source software movement, FOSS, through which people work collaboratively on developing software for all sorts of applications and then make it freely available for adaptation – provided the adaptor puts their new version back into the pool. As an example COL provides a web-based guide for people looking for open source learning management systems, the platforms for eLearning.

We are also using a FOSS package to organise our next Pan-Commonwealth Forum on Open Learning in Jamaica next year.

The parallel revolution, which is gaining momentum, applies the same principle to the development of materials for eLearning or web-based learning. People and institutions around the world can develop courses, or smaller units of teaching, and make them available as 're-usable learning objects'. The term is clumsy but the reality is very exciting indeed. It means that teachers around the world can readily access excellent electronic materials and adapt them to their own teaching needs.

Open Educational Resources have one very important impact on the cost curves. They have the potential to bring down sharply the initial investment cost of technology-mediated learning. This is revolutionary because it means you can offer appropriate eLearning to low numbers and make it locally relevant. You no longer have to recoup a large initial investment through the high enrolments that are a feature of the open universities.

Serving the Bottom of the Pyramid

This ties up well with the important writings of C.K. Prahalad and his colleagues about 'The Fortune at the Bottom of the Pyramid'. Addressing themselves to multi-national corporations, they focus on the four billion poor people in the world who aspire to better lives. They urge corporations to look at globalisation strategies through a new lens of inclusive capitalism since, 'for companies with the resources and persistence to compete at the bottom of the world economic pyramid, the prospective rewards include growth, profits and incalculable contributions to humankind'.

Look at these four billion people through the lens of education, and note that if 35% of the relevant age group were to access higher education there would be 150 million additional students, far more than total current enrolments worldwide. Higher education would, however, face the same challenge as businesses in serving this clientele. It would require 'radical innovations in technology and business models'; changing from the ideal of "bigger is better" to 'an ideal of highly distributed small scale operations married to world-scale capabilities'; and 'helping people improve their lives by producing and distributing products and services in culturally sensitive, environmentally sustainable and economically profitable ways'.

However, as I noted earlier, improving connectivity is uniting the world's rich and poor and transforming the digital divide into a digital dividend. Communication links are altering dramatically the way that poor villages in the developing world function. The growing reservoir of re-usable learning objects means that local teachers do not have to re-invent every wheel. There is a huge new opportunity bring education to millions.

But we prepare for tomorrow today. That is the essence of COL's work, to help countries like Namibia to put technology to the service of education and training. Over the years we have helped many countries to develop policies, systems and applications for the greater use of technology in education, notably the technology of open and distance learning which has demonstrated its success in so many places. We are at your service.

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WITFOR CONFERENCE

Gaborone, Botswana | 1 September 2005

ICTs in Education: Can Digital Dividend Replace Digital Divide?

By: *Sir John Daniel & Paul West, Commonwealth of Learning*

& Susan D'Antoni (UNESCO-IIEP) and Stamenka Uvalić-Trumbić (UNESCO)

Introduction

The themes of this WITFOR [World Information Technology Forum] conference include Building the Infrastructure and Education and I shall concentrate on those two themes this morning. My title is ICTs in Education: Can Digital Dividend Replace Digital Divide. This session also highlights collaboration between international intergovernmental organisations. I am giving a practical example of such collaboration because I have prepared this keynote address with three co-authors.

First is Susan D'Antoni of UNESCO's International Institute for Educational Planning. Through the virtual forum that she has organised on virtual universities and similar events that she is planning for the future, Susan is helping to create a global community of practice in online learning.

Stamenka Uvalić-Trumbić, my former colleague at the UNESCO Secretariat in Paris, heads UNESCO's unit that deals with reform, innovation and quality assurance in higher education. Most recently she has guided the joint work of UNESCO and the OECD on the development of guidelines for the quality assurance of cross-border higher education.

The third co-author is Paul West, a South African colleague at the Commonwealth of Learning who guides our work in knowledge management. One of Paul's objectives is to help people in developing countries use online learning to expand the scope, scale and impact of education and training. For this reason he is particularly interested in discovering how the range of technologies that are used in developing countries can contribute to the learning experience.

The four of us are united by a common aim, which is to promote development through learning. Eradicating the grinding poverty that scars much of our contemporary world is not a simple phenomenon. In many places the notions of information or knowledge societies seem like mirages – or at best realities on the distant horizon.

Specifically we shall focus on online learning, or eLearning, which is currently a major manifestation of ICTs in education. We shall look at government interest in eLearning; barriers to eLearning that require a coordinated response; recommendations for coordination between partners; and what educational leaders can do to promote eLearning.

The fundamental question we shall try to answer appears in our title. Can digital dividend replace digital divide in the developing world? We shall focus particularly on post-secondary education: not because it is the most

important level of education but because success there will spread through the education system. So how can we make eLearning a bridge across the digital divide?

Growing Demand for Post-Secondary Education

The major global trend in post-secondary education is growth in demand. UNESCO's 1998 World Conference on Higher Education (WCHE) brought four thousand participants from 182 countries together for a comprehensive policy debate. Education ministers were joined by other stakeholders and called for a radical renewal of higher education (UNESCO, 1998). A follow-up conference in 2003 found that even the startling changes thought necessary in 1998 underestimated the task ahead (UNESCO, 2003).

For developing countries the challenge begins with demography. Forecasts indicate a population of 7 – 8 billion people in the developing world in 2025 - more than half of them young people. We have already crossed the threshold of 100 million post-secondary students worldwide, and numbers are forecast to grow to 125 million before 2020. But this may be too modest. China, the USA, India, Russia and Japan already have 53.1 million students between them.

'...at no time in human history did the welfare (or poverty) of nations depend in such a direct manner on the quality and outreach of higher education systems and institutions'

UNESCO, 2003

Today there is a huge discrepancy between the proportions of people in developing and developed countries who have access to higher education. 40-50% age participation rates (APRs) are becoming the norm in developed countries, whereas they remain below 5% in some sub-Saharan African countries.

Yet all indications support the statement that "...at no time in human history did the welfare (or poverty) of nations depend in such a direct manner on the quality and outreach of higher education systems and institutions" (UNESCO, 2003). The citizens of developing countries want post-secondary education, and their governments see it as essential for closing the gap with the rich world by tackling the challenges of globalisation.

In this context new providers of post-secondary education are proliferating. They include new campuses of existing institutions, IT companies delivering courses and certificates, for-profit providers and corporate universities. Some of these operate across national borders, sometimes by eLearning.

However, in a recent study we found that cross-border post-secondary education is, for the moment at least, a negligible phenomenon in developing countries (Daniel, Kanwar and Uvalić-Trumbić, 2005). In these countries the numbers studying courses delivered across borders are tiny compared to those studying with local institutions.

This means that developing countries must rely mainly on home-grown solutions to expand post-secondary education. Can eLearning provide the radical reconfiguration of the key variables of capacity, quality and cost that is needed? That is the key question. Can digital divide become digital dividend – and, if so, how?

We should link this to the wider challenge of improving the quality of life of the world's poorest people. Education can learn from the findings of C.K. Prahalad and his colleagues about serving those at the bottom of the world economic pyramid (Prahalad, 2004). Addressing themselves to multi-national corporations, they draw attention to the four billion poor people in the world who aspire to better lives.

They urge corporations to look at their globalisation strategies through a new lens of inclusive capitalism since, 'for companies with the resources and persistence to compete at the bottom of the world economic pyramid, the prospective rewards include growth, profits and incalculable contributions to humankind' (Prahalad & Hart, 2002).

What would be the implications of expanding post-secondary education amongst these four billion people? An APR of 35% within this group would yield 150 million additional post-secondary students, far more than total current enrolments worldwide. Post-secondary education would, however, face the same challenges as business in serving this clientele. It would require 'radical innovations in technology and business models'; changing from the ideal of "bigger is better" to 'an ideal of highly distributed small scale operations married to world-scale capabilities'; and 'helping people improve their lives by producing and distributing products and services in culturally sensitive, environmentally sustainable and economically profitable ways' (Prahalad & Hart, 2002).

Is eLearning the solution?

Does eLearning fit this bill, or is it just another over-hyped but underperforming attempt to connect technology to teaching and learning?

In their study of the experience of eLearning in American post-secondary education Zemsky and Massy (2004a, 2004b) observed that eLearning has

not fulfilled the grandiose promises of its promoters. They urged promoters of eLearning to talk less and do more, in particular to effect the fundamental changes in pedagogy without which eLearning will not achieve its potential.

The potential of the technology, most especially the growing availability of Internet connections, is clear. Such communication links are steadily changing the way that poor villages in the developing world function. The question is whether we can organise ourselves effectively to take advantage of this technological opportunity.

The potential of the technology, most especially the growing availability of Internet connections, is clear. Such communication links are steadily changing the way that poor villages in the developing world function. The question is whether we can organise ourselves effectively to take advantage of this technological opportunity. Here the most promising innovation is the concept – and the developing reality – of open educational resources (OERs). The term refers to open course content, open source software and tools. Essentially OERs apply to teaching and learning the basic principle of sharing that underpins academic research.

Distance educators have talked for years about sharing courseware. The reality has disappointed. One reason is the 'not-invented-here' syndrome that is a feature of academic institutions. Other reasons limiting courseware exchange have been a lack of collaborative mechanisms, copyright and the sheer difficulty of sharing and adapting learning materials that are not in digital formats.

I hope that the Southern African Regional Distance Education Centre (SARDEC), based here in Botswana at BOCODOL will provide a mechanism for collaboration and the Commonwealth of Learning is proud to support it.

Open educational resources could overcome the other difficulties and also reduce concerns that the course was 'not invented here'. OERs make possible the sharing and adaptation of courseware on a more equal basis. Re-usable learning objects are the equivalent of the published articles on which subsequent researchers can build. If providers of post-secondary

education can successfully combine connectivity and shared courseware into a new business model they could massively increase access.

eLearning: the four 'A's

What is required for this to happen? Potential learners ask four questions about the usefulness of eLearning (D'Antoni, 2002).

First, is it accessible? For eLearning to have any impact it must be accessible to the learner. In extending eLearning to developing countries the first priority is to provide ready Internet connectivity.

The second imperative is to make OERs more accessible and to expand their numbers. The OECD and UNESCO are promoting accessibility by mapping OER initiatives in various countries. UNESCO's IIEP supports an international Community of Interest on free and open source software for eLearning, and is currently planning a new forum on OERs, specifically on open content.

This will link interested parties in both developing and developed countries in order to explore and discuss concerns and constraints associated with

the provision and use of open content and propose ways to address them. The interaction and supporting documents will be organised for easy review on the IIEP web site.

Easy access to information about available open content or re-usable learning objects is essential if they are indeed to be re-used. The Commonwealth of Learning has tackled the problem of accessing multiple learning object repositories (LORs) when connectivity is poor and surfing from one repository to another is time-consuming.

The software is a combination of eRIB, a product of Canada's Canarie eLearning project, and pakXchange, an open source product from the private sector. The outcome is free open source software with database and security features that enable the creation of multiple libraries of learning content, multiple contributing institutions and multi-level security. This can be downloaded from the COL website at www.col.org/lor.

Is it appropriate?

Once eLearning is accessible, does it offer appropriate material? Does the content fit learners' needs and does it respect their cultural context? Few subjects and delivery methods are universally appropriate but OERs do allow learning materials to be made appropriate by local adaptation. Expanding the provision of OERs requires building up the confidence of users. Those who seek to adapt re-usable learning objects for their own teaching must have the experience of finding good and appropriate material rapidly and conveniently.

Increasing the volume, appropriateness and quality of OERs also requires a solid understanding of copyright, where the general rule is that "you can give away or sell what you own, but do not give away things you do not own". COL is working with Commonwealth experts to provide synthesised information on copyright in education to governments, institutions and the World Intellectual Property Organisation (WIPO). The aim is both to encourage copyright compliance and to overcome barriers to using content for educational purposes. Developing countries are spending millions of dollars needlessly on copyright clearances because they are unaware of the educational exemptions that exist. At COL we are alerting them to the ways that they can save money perfectly legally. Information on this is available on COL's website at www.col.org/copyright.

Is it accredited?

The third question is accreditation. In cross-border eLearning accreditation is a key concern. Accreditation in the country of origin is one indicator of quality and provides some consumer protection. However, learners' own countries must recognise the credential for it to be useful. What impact, if any, will OERs have on quality and accreditation?

Can the quality of eLearning be assessed using criteria already in use or does it need new models and approaches? This is a simple but important question.

A survey of quality assurance in the mega-universities – the large distance teaching universities with more than 100,000 students – (Daniel, 1999) revealed that they were applying the same criteria to eLearning as those used for their other distance learning courses (Jung, 2005). This suggests that quality criteria can be valid across the spectrum of post-secondary education.

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What can we do at the international level to promote trust and confidence in post-secondary eLearning? How can we develop the skills of quality assurance amongst providers and regulators and empower learners to assess the quality of eLearning, particularly for cross-border provision? The UNESCO-OECD Guidelines on Quality Provision in Cross-Border Higher Education are an encouraging response to these questions because they promote mutual trust and international cooperation in quality assurance and the recognition of qualifications.

They reinforce the key principle that providers and receivers of post-secondary education share the responsibility for its quality. To protect students the guidelines call for partnership between six stakeholders: governments, institutions and their staff, quality assurance agencies, student associations, professional groups, and qualification-recognition bodies (<http://unesco.org/education/amq/guidelines>).

The essential condition for making this partnership successful is dialogue based on shared access to transparent and reliable information. The guidelines stress the role of national priorities as the basis for post-secondary education policy in cross-border education in general and eLearning in particular.

To help build capacity in quality assurance UNESCO is developing a Higher Education Open and Distance Learning Knowledge Base that makes available regional databases on post-secondary open and distance learning in Africa, Asia/Pacific and the CIS and Baltic States. These databases are linked to a search tool on the main UNESCO site using the Commonwealth of Learning's Knowledge Finder and a common taxonomy with the Global Distance Education Network (GDEnet).

In addition, a decision-support tool addresses key questions about quality assurance in open and distance learning (<http://www.unesco.org/odl>). The development of this decision-support tool was itself a nice example of working across borders to provide education through technology. The technical work was done by the South African Institute for Distance Education while the content was provided by Indonesia's Universitas Terbuka working in electronic consultation with a virtual advisory board (Varoglu, 2005).

Is it affordable?

Finally, to come to the fourth 'A', is eLearning affordable to the many? If the opportunities eLearning offers are not affordable in local contexts, digital dividend will not replace digital divide. Can OERs make the difference? They certainly have the potential to do so, but it all depends on whether the current enthusiasm for OERs is sustained amongst both providers and users – and on whether the two groups quickly merge into an OER community of mutual give and take.

Answers to these four questions, these four 'As', are vital because not everyone welcomes eLearning. The Maghreb countries recently dismissed all forms of eLearning as not providing quality education and excluded them from regulatory frameworks for the recognition of qualifications in Algeria, Tunis and Morocco (UNESCO, 2005).

But, despite such holdouts, expanding higher education through ICTs and on-line provision is a global trend (Uvalić-Trumbić & Varoglu, 2003). Developing countries like Tanzania, Kenya, Nigeria and Iran see it as a way to meet growing demand while reducing the brain drain. Some governments and international organisations link eLearning to the development agenda, as in the cyber universities in South Korea, the Nigerian University Network and other virtual university initiatives. One such is the Virtual University for Small States of the Commonwealth (see: http://www.col.org/virtualu_invite.htm), which was requested during the dotcom frenzy of 2000 by the ministers of education of the 33 small countries that are part of the 53-member Commonwealth. Fearful that their countries did not have the critical mass to be players in the world of eLearning, they called for small states to collaborate, through coalitions of the willing, to develop and share learning objects. This is a good example of the potential of eLearning to promote national and regional development. I am delighted that Botswana will be taking part.

What are governments' interests?

Let me now look at eLearning from governmental and institutional perspectives. What are the interests of governments in eLearning and their role in advancing it? What are the interests and roles of institutions?

Governments are attracted to eLearning, as to other applications of technology in post-secondary education, by the hope that it can increase access by promoting the three 'E's of efficiency, effectiveness and economy. In recent decades, for example, developed and developing countries alike have greatly increased participation in post-secondary education through the creation of open universities.

These institutions, like eLearning, combine technology with new forms of organisation (Daniel, 1999). ELearning could extend this revolution further because digital materials are much cheaper to copy, distribute, adapt and share than other formats. Even more importantly, well-designed eLearning can make the interactive aspects of teaching and learning, which are essential to the success of most students, more cost effective.

ELearning can support campus teaching as well as distance learning. This is important for developing countries because, although access to the Internet may be limited on campus, off campus it is often non-existent. Academics can put study material online for learners to access and, since institutions usually provide computer labs, students need not have their own computers. As one African academic said, "I did not have time to teach this in class, so I put it online and told the students to access it there. After they had studied it online we discussed it in class and saved time".

Institutions can also improve learner support by creating online discussions to give more time for debate and study. Moving some activities online and

out of the classroom reduces demands on buildings, creating efficiencies in the use of plant that governments like to see.

What is government's role?

What should governments do and not do to further their interest in eLearning? Experience suggests that governments and their agencies should not operate eLearning programmes except for direct governmental functions. Governments' role is to create the context in which eLearning can flourish. This is a crucial task in developing countries, where the context for eLearning is usually unfavourable.

What are the barriers to eLearning that governments and institutions could surmount? We see five. First, bandwidth is limited because of telecommunications legislation and telecom company monopolies. Second, institutions do not usually buy bandwidth jointly in bulk. Third, institutions use bandwidth inefficiently through lack of policy and poor management. Fourth, the lack of affordable Internet terminals off campus calls for accessible kiosks and study centres. Fifth, institutions may be unduly 'copyright-shy' through ignorance about copyright laws, their countries' copyright exemptions and ways of using copyrighted materials legally.

The issue of access to telecommunications handicaps developing countries. Their institutions can pay over 100 times more for Internet access than in the industrialised world. An individual in an OECD country may have a 500-kilobit home Internet connection, whereas in a developing country a 500-kilobit line is all that an institution can afford for sharing by hundreds of users.

Telecom companies add to the problem when they buy bandwidth from overseas Internet service providers. They could, for example, buy a broadband line connection and over-sell it to multiple clients – still promising each client a dedicated broadband connection. Making good Internet bandwidth affordable to institutions is an absolute necessity for any country aspiring to quality post-secondary education. Governments should ensure that their telecoms suppliers provide it. Expensive connectivity handicaps institutions and countries. This is a particular problem here in Africa.

What should institutions do?

Maximising the benefits of bandwidth

Institutions can tackle some issues themselves. When they club together to buy bandwidth in bulk the price drops. In South Africa, for example, a small non-profit entity buys bandwidth for nearly 50 institutions at once. To gain this kind of negotiating power institutional leaders and IT departments must cooperate.

There is never enough bandwidth and solving the problems that we just listed will take time. Meanwhile, institutional managers should have policies for using bandwidth sensibly by defining acceptable use. These cover the kinds of data that may be transferred to and from the institution and the types of websites that may be visited. Such policies are an

How do we enhance collaboration between partners? What can we do to create and foster the eLearning revolution? The stakes are high.

essential stepping stone to technical strategies that maximise the benefits of bandwidth day and night. To guarantee bandwidth during the day for research and study, management must focus on those functions and avoid usage for which there are alternatives. Demand for bandwidth is usually very low at night so it can be used other tasks.

If daily information use follows a pattern, information from particular websites can be "pre-cached" to local servers for use the next day. The more the information requirements can be predicted, the more the load on Internet lines during the day can be reduced, releasing bandwidth for those tasks such as Internet searches that cannot be cached.

Learners in developing countries do not usually have computers and Internet links at home. They go instead to Internet kiosks or cafés where access is very expensive in terms of local salaries. Students are unlikely to connect for long enough, at the low Internet speeds available, to gain much information. Governments could subsidise kiosk prices and institutions should provide Internet access on campus over extended hours from early morning until late at night.

Institutions also face important non-technical issues in developing eLearning. In 2003 UNESCO's International Institute for Educational Planning (IIEP) conducted a series of case studies on the creation of virtual universities on six continents (<http://www.unesco.org/iiep/virtualuniversity/>).

They highlighted four issues that become particularly sensitive as institutions develop policies on open educational resources.

Institutional development and organisation

Face-to-face teaching institutions may find it difficult to develop general policy on eLearning because their existing policies and procedures were conceived for a different learning environment. However, although distance-teaching institutions may already have a general policy framework that is appropriate for eLearning, they may find developing policy on OERs a serious challenge.

For a large, high-quality distance-teaching institution like the UK Open University to make its self-instructional materials freely available could create a clear threat to its core business. Could the UKOU make OERs available to developing countries without giving competitors in the industrialised world the opportunity to compete against it with its own materials?

This is a tough question for institutional leaders. Only experience can really provide an answer. Whilst there is some evidence that making the texts of books freely available on the Web increases sales of the printed versions, we need more research on this issue for eLearning.

Management

Then there are some direct challenges of management. A brand new institution can develop its organisation and management around an eLearning business model. Existing institutions starting from an older business model may be wise to create a distinct entity for eLearning within existing structures. Either way institutions must be ready to invest without

expecting immediate returns. Training in eLearning is vital for both faculty and technical staff, especially in developing countries where it presents such an important opportunity.

Training and sound information are particularly important in the choice of learning management systems. Many such systems, both proprietary and open source, are being developed. One result is that they are increasingly interoperable, so changing platforms need not mean scrapping previous investments in eLearning materials. However, the choice of a learning management system remains an important decision. COL has developed a decision support tool to help decision makers make a selection (<http://www.col.org/Consultancies/04LMSEvaluation.htm>). Determining which learning management system an institution should choose is not COL's role, but this tool can be used by a management team to work through the decision in a systematic way.



Academic issues

There are various academic issues, beginning with the choice of the right programmes. A feasibility study may help to identify subjects that are in demand and for which eLearning is appropriate. Whatever the subjects chosen, the support and reward to the institutional staff will be critical in ensuring a useful and broad eLearning curriculum.

eLearning is often touted as student centred. To make this true requires careful planning of student services and student aid. Some services will need to be available continuously (24/7) and developing countries need study centres that students can come to.

National and international environment

Finally, expanding eLearning has national and international implications. The high cost of developing eLearning argues for national and international partnerships and cooperation in its production and provision. This is what motivated the ministers of education of the small states of the Commonwealth to call for the creation of a virtual university as a framework in which they could work together to create courses and programmes, thus avoiding total dependence on larger states.

Creating the eLearning revolution

I close by putting the challenge to you. How do we enhance collaboration between partners? What can we do to create and foster the eLearning revolution? The stakes are high. In other sectors ICTs and the Internet have created new business models that have made products and services more accessible by reducing their cost and improving their convenience. How can we effect similar transformations in education? Can eLearning take post-secondary education to the billions at the bottom of the pyramid? What must we do to rise to challenge of the four 'A's and make eLearning accessible, appropriate, accredited and affordable?

Mechanisms for Collaboration

Collaboration needs enabling mechanisms. We identify five.

First, it is invaluable to link the leading institutions and figures in eLearning through virtual forums, such as those organised by the International Institute for Educational Planning. These forums should become a regular series.

Second, some collaborative ventures require external funding. Here we pay a sincere tribute to the Hewlett Foundation, which has funded initiatives in eLearning and open educational resources in an effective and disinterested way, thereby helping to create an international eLearning community.

Third, collaboration in linking together learning object repositories is a natural extension of the vision of open educational resources. The aim, if I may re-order the title of my own institution, is to make learning the common wealth of the whole world.

Fourth, training in both policy and practice for eLearning is a continuing need and a critical factor in its expansion. There is already evidence that eLearning is liberating for trained faculty in developing countries because what they can create is limited only by their imagination and knowledge, not by their institution's ability to afford imported materials or software licences.

Fifth and finally, as we have already noted, international collaboration is a necessary foundation for quality assurance through such mechanisms as the UNESCO/OECD guidelines on cross-border education and the regional conventions on the recognition of qualifications.

Conclusion

In conclusion, we encourage you to harness your energies to the goals that we have laid out. There is enormous pent-up intellectual creativity among the billions of poor people in the world. Sadly, existing models of post-secondary education have been too expensive and too inflexible to respond to their needs, most especially here in Africa. Surely our aim must be to combine connectivity with open educational resources so as to create a global intellectual commons accessible to the whole of humankind?

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BOCODOL WORKSHOP

Gaborone, Botswana | 1 September, 2005

ODL and ICTs for Teacher Development in Sub-Saharan Africa: the Experience of the Commonwealth of Learning

By: Sir John Daniel & Mohan Menon, Commonwealth of Learning

Introduction

It is a pleasure to be invited to speak to you at this BOCODOL [Botswana College of Distance and Open Learning] Workshop on the final day of a three-week trip that will have taken me around the world from Vancouver to Vancouver through eight countries of southern Africa. Southern Africa is the most distant part of the Commonwealth from Vancouver, so once I was here it made sense to visit all the Commonwealth countries of the region. It is good to end here in Botswana at BOCODOL, because throughout my trip I have found great interest in the development of SARDEC [the Southern African Regional Distance Education Centre].

My instructions for my remarks today were to present a paper on any aspect of ODL that I feel will benefit the region. This is in the context of strengthening the capacity-building programme being undertaken by SARDEC with COL's support. This morning, at the WITFOR [World Information Technology Forum] conference, I talked about eLearning and the huge potential importance to Africa of the combination of increasing connectivity and open educational resources, the re-usable learning objects that we can now create in electronic form.

You obviously don't want to hear the same speech, so this afternoon I am going to talk about teacher education. My title is: ODL and ICTs for teacher development in Sub-Saharan Africa: the experience of the Commonwealth of Learning and I have prepared this paper with the help of my distinguished colleague Professor Mohan Menon, who is in charge of the area of teacher education and school development at COL.

The essence of COL's work is the application of technology to learning for purposes of development. You are all familiar with the Millennium Development Goals, the MDGs. Achieving these goals will be challenging for many African countries, because their attainment requires many different types of intervention. However, a common requirement for progress to all the eight goals is a massive increase in learning. COL is increasingly using the framework of the MDGs to define its work, which is leading us to try to contribute to the fight against poverty and hunger through lifelong learning for farmers and to the struggle against disease by helping the masses to learn how to live healthy lives.

But the MDG that stands out, because it provides the foundation for progress to all the others, is the goal of basic education for all. It is in this context that COL is engaged in helping countries to train and develop their teachers. However good we are at using technology to support schooling, children need teachers. They are fundamental to school development, which is why we call Professor Menon's area 'Teacher Education and School Development'. You are all well aware of the challenge.

The Challenge of Teacher Training in Africa

There is a severe shortage of teachers at all levels of the education system. UNESCO's Education Sector plan for 2005-07 predicts that in Sub-Saharan Africa (SSA), at a conservative estimate, 4 million additional teachers will be needed by 2015 to meet the Universal Primary Education goal alone. This is in addition to the needs of literacy and health education in the non-formal systems. In some SSA countries, the majority of primary education teachers have only a lower secondary qualification, often without any professional training. These personnel enter the profession reluctantly, and leave quickly, and they include large numbers of so-called parateachers.

However good we are at using technology to support schooling, children need teachers.

This tells us that Africa faces a massive need to train teachers both before service and during their service. The pre-service and in-service training of teachers is the key to increasing access to schooling and to improving the outputs of schooling. It is now clear that conventional methods of teacher education can neither scale up to meet the numerical challenge nor supply the consistency of training necessary to ensure quality.

THE CHALLENGE OF TEACHER TRAINING IN AFRICA

- 4 million new teachers by 2015 for UPE
- under-qualified teachers
- para-teachers

therefore:
a massive need for training — pre-service and in-service

The Advantages of Open and Distance Learning

Delegates to this BOCODOL workshop are likely to be broadly convinced of the potential of open and distance learning and appropriate information and communication technologies to provide some of the answers to this challenge. However, it is worth listing six of them.

First, ODL provided opportunities for learning that are flexible and relatively free of constraints on the time and place of study.

WHY ODL?

- few constraints on time and place of study
- scale, consistent quality, cost-effectiveness
- learner centred, interaction
- good resources and student support
- in the workplace
- customisation, and

Plenty of experience in Africa

Second, ODL can be carried out at scale with consistent quality, which makes for more cost-effective systems.

Third, ODL is a more learner-centred approach with options for greater interaction between learners and resource materials, tutors and lecturers or teachers.

Fourth there are many examples ODL's capacity to deliver both quality learning resources and operate effective systems of student support.

Fifth, ODL can provide opportunities for professional development and upgrading without taking the teacher away from the workplace.

Sixth, ODL materials can be customised to local needs and priorities, combining the benefits of scale with the attraction of cultural relevance.

I should perhaps add a seventh advantage of ODL for teacher education in Africa, namely that there is now a deep pool of experience in Africa on the use of ODL for teacher development.

COL and Teacher Education in the 1990s

For these reasons COL has been helping countries use ODL in teacher education since its creation. Its first major activity was a Round Table on Teacher Education organised in Vancouver in 1992. An expert group of twenty-two experienced teacher educators from thirteen Commonwealth countries discussed critical aspects of teacher training for science, mathematics and technical/vocational subjects. Their debates ranged over the related issues of materials, methods, media, quality, regional trends and international co-operation.

The papers presented at the Round Table became a publication whose recommendations gave direction to COL's work in teacher education for the rest of the decade. That work included advocacy and consultative meetings, training workshops and training material development. Training material development was a particular priority that inspired two major projects in the late nineties: the STAMP 2000+ Materials and Training Materials for Women Education Managers.

More generally, the period 1990-95 saw fifteen regional workshops and over twenty-five national workshops aimed at improving and expanding the professionalism of distance education. These were organised with the help of local institutions and involved several hundred participants from thirty-five Commonwealth countries. In addition, many people benefited from training attachments to institutions in other Commonwealth countries.

This training covered a wide range of topics such as course writing and editing, radio and video script writing and production, instructional design and course development, tutor orientation training, the management of student support services, course design for audio-teleconferencing, desk-top publishing and the use of the computer as a management tool in distance education. Whilst the main focus of this work was capacity building in ODL and communication technology generally, some of the workshops focused specifically on the application of ODL to teacher training.

COL — PLAN FOR 2003-2006

- Policy
- Systems
- Applications
- Knowledge Management

Recent initiatives for teacher development in Sub-Saharan Africa

COL has maintained the momentum of its work on teacher development into this new century. Its present three-year plan, covering the period 2003-2006 identifies three programme areas, or types of output.

First, there is a focus on Policy. The aim is to facilitate the adoption and implementation of open and distance learning within the broader educational and human resource development strategies and policies of member nations.

Second, through its focus on Systems Development, COL assists in the development of open and distance learning systems that either build on existing capacity or create new capacity.

The third output is Applications. These show how open and distance learning can benefit individual learners, institutions and countries by accelerating human resource development.

Finally, Knowledge Management is the fourth area of COL's work and supports all three programme areas in a cross-cutting manner.

In this three year period COL activities in teacher development appear in all three programme areas and cover six area of work.

Advocacy and Policy

Firstly, and very importantly, COL advocates and facilitates policy formulation through dialogues, consultations and meetings – both formal and informal – with policy makers and senior administrators in governments and institutions. The aim is always to familiarise these decision makers with

ODL and ICT. In recent years COL organised the following gatherings with a specific focus on the use of ODL/ICT for teacher development.

In July 2001 COL held an African Policy Dialogue in Teacher Education in Namibia. 234 participants representing Ministries of Education, teacher education institutions and other organisations from across Africa took part. Major recommendations from this dialogue were that African Governments should:

- show stronger political will and commitment to ODL initiatives in their respective countries, through appropriate and adequate resource mobilisation and allocation;
- integrate ODL with their wider education delivery systems;
- foster cooperation among African countries, using sub-regional institutions where available, in order to share expertise and optimise resource deployment for ODL;
- take advantage of the immense potential of appropriate information and communications technologies to advance ODL;
- enhance the motivation and professional development of teachers with policies for career development and professional growth;
- establish accreditation frameworks and standards for all levels and modes of education, including ODL, so as to guarantee quality, comparability and relevance;
- develop appropriate infrastructure and management systems for ODL;
- formulate policies to arrest the spread of HIV/AIDS and other epidemics on the continent and so reduce their impact on teacher availability; and
- create an enabling environment for an ODL knowledge and skills bank, through research and development in African countries.

Those recommendations sound very good but that was four years ago. Have we made progress? In January of this year I visited the Commonwealth countries of West Africa and I complete here today a three week tour of eight Commonwealth countries of Southern Africa. I have met several heads of government and nearly all the Ministers. My conclusion is that we are making good progress. In Nigeria and Ghana Presidents Obasanjo and Kufuor are themselves taking a direct hand in promoting the development of ODL. Everywhere I have been in Southern Africa I find Ministers convinced that greater use of ODL at all levels, and especially for teacher training, is the only way to achieve the objectives of Education for All.

Another important meeting that COL convened was concerned directly with EFA. This Education for All consultative meeting was organised in Abuja in 2003 in collaboration with apex organisations under the Ministry of Education, Nigeria. Ministry officials, teacher educators, education administrators and non-governmental agencies from West Africa participated. The main focus areas related to teacher training in the context of the EFA agenda for Africa that emerged in the meeting were:

- Providing initial training for untrained teachers and upgrading of under-qualified teachers leading to certificates/diplomas/degrees;

- Recurrent training and regular teacher support using ODL and ICT to assure school quality;
- Capacity building of head teachers and educational administrators with a focus on maintaining school quality;
- Professional development of policy makers, teacher educators and top educational administrators on innovative management and use of alternative modes for training of teachers.

In addition to these area specific meetings and forums, COL supports the organisation of regional and national forums for advocacy of ODL and ICT for human resource development in all sectors of development. Three such forums were organised in the last two years in Kenya, Cameroon, Sierra Leone and The Gambia. Using ODL/ICT for teacher development has been one of the major areas of focus in these forums.

Training materials development

COL's second area of work in teacher training is the development of teacher training materials in cooperation with institutions. Apart from the materials themselves, this work increases capacity for materials development and creates networks of institutions. Here are some examples in Sub-Saharan Africa.

STAMP 2000+ - a joint initiative: Following the call for large numbers of better trained teachers at the 1997 Conference of Commonwealth

Education Ministers held here in Gaborone, COL responded by bringing together eight southern African countries - Botswana, Malawi, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe - to collaborate on a five-year distance education project to train upper primary and junior secondary teachers and administrators.

Under the name STAMP 2000+, this Science, Technology and Mathematics Programme was designed to facilitate in-service training and upgrading for teachers in participating countries. Forty-six

modules are now available in four subject areas – Science (8), Technology (9), Mathematics (11) and General Education (18). The modules were designed to be sufficiently generic to adapt to the specific needs of existing in-country teacher training programmes.

Close to 300 education professionals, including administrative and technical staff, have received hands-on training related to instructional design, course writing and management. The fact that this initiative ran to schedule is a testament to the programme's success as a collaborative effort. This was achieved through a series of training and course development workshops. Workshops were held to design a core regional curriculum compatible with SADC educational practice and to streamline the adaptation of STAMP 2000+ modules while keeping open the longer-term possibility of the programme's implementation in other SADC countries. Ghana has adopted some of the modules of the package in its courses for primary school teachers.

COL has made the 46 modules available on a single CD and the entire package has been uploaded to the World Space Satellite to allow distribution of the modules all over Africa. STAMP2000+ CDs are freely available for all Commonwealth countries. We encourage countries to adopt the STAMP 2000+ modules and use them for in-service teacher training.

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Each country can design its own delivery and learner support system. COL will be happy to work with Ministries or institutions to facilitate this process.

The next step is to convert relevant modules into an interactive format suitable for use for on-line or CD-based learning.

The development of training material for women education managers in South Africa is another COL project, carried out in KwaZulu-Natal province of South Africa in 2000-2001. The programme contained 10 modules of self-learning print materials. As a follow-up, a meeting was organised in August 2002 to review the possibility of developing materials for other media to support the print materials. The material is available for use in South Africa and other countries.

Capacity building in ODL/ICT for teacher development

COL's third major concern is to strengthen the capacity of teacher training institutions in ODL and ICT. Instead of one-off training workshops in various aspects of ODL, COL prefers to have long term associations with institutions or countries in order to have greater impact. Here are some African examples.

COL started working with Nigeria's National Teachers' Institute (NTI) in 2002 to assist internal and external capacity building. Internal interventions reviewed and strengthened the capacity of personnel and systems within the Institute. External intervention forged links between NTI and agencies and institutions within Nigeria and abroad.

Thanks to the internal work NTI now has adequate capacity for developing effective self-learning print material, for producing course-based video programmes and for use of radio broadcasts. In the external work COL familiarised some 60 heads of teacher education colleges with the use of ODL and ICT for teacher training. This has given them a better appreciation of NTI and its crucial role in teacher training.

Phase II of COL-NTI collaboration has begun with a review of the learner support system. Following this NTI has identified further areas for COL cooperation in the next 2-3 years. They include development of a handbook for training tutors, a workshop for training trainers, the design of monitoring and evaluation and a quality assurance mechanism.

With support from the World Bank COL also helped to build capacity in the Lesotho College of Education (LCE). Phase I of the Distance Teacher Education Programme trained the academics of the Lesotho College of Education in instructional design and self-instructional materials development. It included developing 18 modules of course material for year one of the programme, designing the learner support system and defining the administrative arrangements. About 30 faculty members of LCE had received training by March 2002.

Networking and consortium building

COL's fourth area of activity is networking and building consortia.

Since early 2002 COL has worked with the various organisations managing and implementing primary teacher development in Nigeria. These include the National Commission for Colleges of Education (NCCE), National Teachers' Institute (NTI), National Open University of Nigeria (NOUN), Universal Basic Education Programme (UBE), Colleges of Teacher Education (CTEs) and the National Commission for Nomadic Education (NCNE).

The idea is that each of these organisations has an important role to play in the application of ODL and ICTs to teacher development. This was a shift in mind-set from the earlier assumption that ODL implementation would rely only on specialised ODL institutions. The hope is that such a network can underpin a cost-effective and sustainable programme of teacher development using ODL. Each organisation has its place in the network consistent with its own mandate but all contribute positively to the overall quality and efficiency of the ODL system.

Firstly, and very importantly, COL advocates and facilitates policy formulation through dialogues, consultations and meetings – both formal and informal – with policy makers and senior administrators in governments and institutions.

In a second example, COL along with UNESCO's Regional Office for Education in Africa, BREDA, helped create a Teacher Education Consortium in West Africa. Ministers of education from Cameroon, The Gambia, Ghana, Nigeria and Sierra Leone signed an agreement in November 2002 to adopt and use ODL materials and systems for in-service-teacher training in their countries. There followed a workshop in February 2003 in which participants from their teacher education colleges met in Kaduna, Nigeria and reviewed the STAMP 2000+ teacher training materials.

They selected modules from STAMP 2000+ for their use and then continued to interact, to share materials and services and to organise joint workshops and training programmes with COL. Thus a training workshop on learner support for teacher training was organised in Winneba, Ghana in July 2004 and another on Instructional Design in Kaduna in May 2005. COL is now attempting to create such a consortium in East Africa.

Since I am at BOCODOL, which is the home of SARDEC, the Southern African Regional Distance Education Centre I should note particularly the

sister institution in Nigeria serving West Africa. RETRIDAL, The Regional Training and Research Institute for Open and Distance Learning has been created in the National Open University of Nigeria (NOUN) with COL support and is now identifying and strengthening expertise in ODL and ICT in the region. I hope that RETRIDAL will help SARDEC in its development.

Quality Assurance in Teacher Education

Area five of COL's work is the vital area of quality assurance. COL has been working with accrediting agencies and teacher education institutions in Africa and South Asia to facilitate quality assurance in teacher education. The institutions are working on a package of quality indicators which is available for testing in selected Commonwealth countries in Sub-Saharan Africa and south Asia this year. It will then be offered for use Commonwealth wide.

In related work, COL has brought together accrediting agencies and teacher education providers using different modes to discuss issues of quality and its enhancement in teacher development. A Roundtable on Quality Issues in the Use of ICT for Teacher Development was organised by COL and the National Commission for Colleges of Education (NCCE), Nigeria in April 2005.

Facilitating eLearning for teacher training

Area number six is the use of eLearning in teacher training. In 2004

SchoolNet Africa (SNA) commissioned a study of eLearning in partnership with COL, the International Institute for Communication and Development and the Open Society Initiative of Southern Africa. It is the most extensive examination yet conducted of teacher training using ICTs in African countries for both pre-service and in-service. The findings flag significant challenges in integrating ICTs into teacher training. These include:

- the variety of levels at which ICT capabilities can be taught and the difficulty of making large-scale and effective strategic interventions;
- the lack of a comprehensive pan-African framework to inspire the development of local technological models and local teacher training content for building teachers' ICT capabilities;
- the lack of coherent government policies for developing teachers' ICT capabilities;
- the low priority accorded to funding ICT education and the under-resourcing of institutions;
- a shortage of locally developed, contextually relevant course content for both teachers and learners;
- a reluctance to invest in equipping teachers with the necessary skills to integrate ICTs when schools do not have the computer laboratories where they can put their skills into practice with learners;

eLEARNING AND TEACHER TRAINING

Challenges:

- variety of ICT capabilities required
- lack of Pan-African framework
- poor policy to raise teachers' ICT capability
- low priority to ICT funding
- shortage of local relevant materials
- reluctance to invest in teachers' skills

Professional Development of Teacher Educators/Administrators

COL's final area of interest is the professional development of the leaders, managers and administrators of teacher education. The task is to develop management capacity and inculcate a better understanding of the potential of ODL and ICT in teacher training among institutional heads and administrators from sub-Saharan Africa.

Four presentations of a workshop jointly organised by COL and Ministry of Foreign Affairs of Singapore have been held from 2001 to 2004. Seventy-five (75) teacher education administrators from Africa participated. The fifth in the series will be in November this year. We are also evaluating the activity to decide whether to continue it and, if so, what changes to make.

The Indian National Council for Educational Research and Training proposed organising similar workshops, which COL held with NCERT in 2003 and 2004. Twenty-three (23) heads of teacher education institutions from Africa participated in these two 10-day workshops, which were designed to help heads of Teacher Training Colleges address the challenges of training teachers for achieving Education For All. Indian delegates also took

part, allowing the sharing of ideas between these two regions.

*I assure you
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Conclusion

It is time for me to conclude. I assure you that teacher development using ODL and ICT will continue to be a priority to COL in the next three year plan that starts in July 2006. Capacity building, quality assurance and consortium and network building will be important themes. Most of this COL activity will happen in the eighteen countries of Sub-Saharan Africa with a special focus on the poorer countries and those losing large numbers of teachers for various reasons. COL will work closely with UNESCO's programmes in the region and will be involved in major regional projects such TESSA. However, this focus on the region will also include fostering South-South cooperation, especially through links with South Asia.

It is in the context of work like this that COL welcomes the establishment of SARDEC here at BOCODOL and commits to supporting its activities, both in teacher education and in other applications of ODL.



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