The Role of eLearning in Building Knowledge Societies in Developing Countries

ASIAN ASSOCIATION OF OPEN UNIVERSITIES, Annual Conference 2005, Jakarta, Indonesia, 15 September 2005, Theme: Building Knowledge Society through Open and Distance Education

The Role of eLearning in Building Knowledge Societies in Developing Countries

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Presented by Sir John Daniel

Introduction

It is a great pleasure to be at another AAOU conference and I thank the distinguished Rector of the Universitas Terbuka and all our Indonesian colleagues for their very warm welcome.

I have often said that the Asian Association of Open Universities is the world's most effective professional body for distance education. That is due to the consistently high quality of leadership of the Association; to the intellectual resources of your institutions; and to the fact that your large open universities are confronted daily with the real challenges of designing and delivering open and distance education. You have to address the real issues and cannot take refuge in abstractions.

The theme of your conference is Building Knowledge Society through Open and Distance Education. I shall focus on a new tool for that building process; so I have entitled this keynote address: The Role of eLearning in Building Knowledge Societies in Developing Countries. Three co-authors, who are particularly well placed to understand and promote the global significance of eLearning, have worked on this speech with me.

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 eLearning.

Stamenka Uvaliæ-Trumbiæ, 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. eLearning will be an important vehicle for cross-border education.

The third co-author is Paul West, my 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 eLearning 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 techniques may draw on experiences from industrialised countries, although we find that a technological solution in one country is not necessarily transferable to another country.

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 notion of a knowledge society seems like a mirage - or at best a reality on the distant horizon.

However, where people do aspire to join the knowledge society, education and training is the road they must take. We believe that eLearning, and in particular the sharing of re-usable learning objects, could help developing countries and their people leapfrog over some of the stages through which education has developed in industrialised countries.

We shall begin with the challenge of making higher education available to people everywhere. The open universities of Asia have done a tremendous job in helping their countries rise to this challenge and I congratulate you on your magnificent work. But remember, as we focus on higher education, that the challenges at other levels of education are even greater. There again, I congratulate the members of AAOU, perhaps particularly Allama Iqbal Open University and the Bangladesh Open University, for the very important work they are doing at the school level.

Second, we shall ask a crucial question for this conference. How important is eLearning in the toolkit of open and distance education? You all have established teaching and learning systems, which we call in our jargon multi-media distance learning systems. You cannot change your media mix overnight even if you wanted to. You have learned, as I have, that there is no one magic medium and that students like a mix of media. But you are all adding eLearning to your media mix. What are its special characteristics, its strengths and weaknesses?

Third, we shall examine the barriers to the development of eLearning and suggest how governments, institutions and individuals can combine forces to overcome them.

Fourth, we shall urge the open universities of Asia to be leaders in this endeavour and help to lead the world to a better future. You are all committed to development. Asia is becoming very rich in ICTs. At our meeting in China last year I was struck by the tremendous professional skill of our Chinese colleagues in using ICTs to support the AAOU conference and the development of China generally. Because of your working context, you in Asia are much better equipped than people in long-industrialised countries to help the developing world use eLearning effectively, efficiently and economically.

Joint creation of learning objects could forge links across the world because they call out for the pooling of expertise, notably between developing countries and their Diasporas around the globe.

Growing Demand for Post-Secondary Education

So let us start on the familiar territory of growth in demand for post-secondary education, which is also a major Asian and global trend. UNESCO's 1998 World Conference on Higher Education (WCHE) brought four thousand participants from 182 countries together for a comprehensive policy debate (UNESCO, 1998). They found then that higher education needed radical renewal but a follow-up conference in 2003 found that even the major changes forecast in 1998 underestimated the task ahead (UNESCO, 2003).

For developing countries the challenge begins, as usual, 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. The open universities of Asia are playing an important role in responding to this growth.

Today there is a huge discrepancy between the proportions of people in developing and developed countries that have access to higher education. 40-50% age participation rates (APRs) are becoming the norm in developed countries. They are now rising fast from a low base in most of Asia, but 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. As well as open universities they include new campuses of existing institutions, IT companies delivering courses and certificates and for-profit universities. Some of these, including some of your Asian open universities operate across national borders through distance and eLearning.

However, in a recent study we found that incoming cross-border post-secondary education is, for the moment at least, a negligible phenomenon in satisfying the demand for higher education developing countries (Daniel, Kanwar and Uvaliæ-Trumbiæ, 2005).

This means that developing countries must rely mainly on home-grown solutions to expand post-secondary education, although this does not exclude partnerships amongst academic equals. Members of a nation's Diaspora could be helpful in forming constructive and equal partnerships between institutions in industrialised and developing countries. I emphasise the word 'equal'. Developing countries don't want more parentalism and industrialised countries want to help constructively but often need help in finding how best to give that assistance.

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 link this to the wider challenge of improving the quality of life of the world's poorest people that has been taken up by C.K. Prahalad and his colleagues (Prahalad, 2004). Addressing themselves to multi-national corporations, they draw attention to the four billion poor people at the bottom of the world economic pyramid 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 higher education amongst these four billion people? An APR of 35% within this group would yield 150 million students, far more than total current enrolments worldwide. Higher 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?

Can eLearning help your open universities respond to that challenge, or is eLearning just another over-hyped but underperforming example of the illusion that technology can transform education? In their study of the experience of eLearning in American higher education Zemsky and Massy (2004a, 2004b) concluded that eLearning can not yet claim to be the map to the buried treasure. They urged the eLearning community to talk less and do more, in particular to effect the fundamental changes in pedagogy without

which eLearning will not achieve its potential.

The open universities of Asia are uniquely well placed to effect the transformation required. By operating at a distance you have already had to make the fundamental changes to pedagogy that America finds so difficult. You already operate at costs that are much lower than conventional universities in your own countries and vastly lower than costs in the industrialised world.

The potential of the technology, most especially the growing availability of Internet connections, is clear. As you know better than I, communication links are 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.

One of the more promising innovations in eLearning is the concept - and the increasing availability and use - 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 and its publication.

We distance educators have talked for years about sharing courseware. The reality has disappointed. One reason is the 'not-invented-here' syndrome that reinforces the immune systems of academic institutions. Other reasons limiting courseware exchange have been copyright and the sheer difficulty of sharing and adapting learning materials that are not in digital formats. We at COL understand this problem very well because we have tried to facilitate sharing between some of your institutions and dual mode universities in other parts of the world.

The development and use of open educational resources could overcome that difficulty and also reduce concerns that the course was not invented here. OERs make it possible to share and adapt both courseware and software on a more equal basis.

All players in the eLearning enterprise must work at creating a culture of equality. I urge the AAOU to take the lead in encouraging regional and global cooperation in the creation and sharing of learning objects - the building blocks of open course content.

Re-usable learning objects are the equivalent of the published papers on which subsequent researchers can build. However, for that building to occur we need a much more fully connected system of repositories for learning objects so that they are easily accessible. But if we could successfully combine connectivity and shared courseware into a new business model we could increase access massively.

eLearning: the Four 'A's

What is required for this to happen? Potential learners ask four questions about the usefulness of eLearning for post-secondary education, continuing education or professional training (D'Antoni, 2002).

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 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 a number of 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 course content, that will begin in October. This will link people in both developing and industrialised countries to discuss opportunities and constraints in providing and using open content. The interaction and supporting documents will be organised for easy review on the IIEP web site as a record of the interaction and the issues raised.

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

If they have limited connectivity, institutions in developing countries must have their learning management system available on their local area network so that it is readily accessible from computer labs and study centres. This makes the technology accessible, even if learners do not own their own computers with Internet access. The development of the ability to replicate the content of repositories locally is still on the wish-list and will depend not only on funding, but also on the ability of all parties to agree on the relevant data sharing standards.

Is it appropriate?

Once eLearning is accessible, is what it offers appropriate? Does it help to address the key challenges facing higher education in the country? As Asian open universities you have already had to face this question. Does the content fit learners' needs and does it respect their cultural context? Few subjects and delivery methods are universally appropriate. However, OERs allow learning materials to be made appropriate by local adaptation - and translation - and your institutions have staff that could easily become skilled at this.

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?

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 by Jung (2005) of quality assurance in the mega-universities (Daniel, 1999), which included some of your institutions, revealed that they were applying to eLearning the criteria already in use for their other distance learning courses. Furthermore, the quality assessment system for higher education in the UK uses the same approach for all institutions, including the UK Open University. This suggests that quality criteria can be valid across many delivery mechanisms.

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 (www.unesco.org/education).

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 the 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 to ordinary people the digital divide will not become a digital dividend. Can OERs make a difference? Because of their potential to reduce the cost of course development they certainly have the potential to do so for the institution seeking to expand access through e-learning..

Answers to these four questions are vital because not everyone welcomes eLearning. In a recent pilot project the Maghreb countries 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 (Uvaliæ-Trumbiæ & Varoglu, 2003). Developing countries like Tanzania, Kenya, Nigeria and Iran see it as a way to meet growing demand while reducing the brain drain. Others follow South Korea in viewing the Internet as an economic motor.

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 such as the Virtual University for Small States of the Commonwealth (see:www.col.org/SiteCollectionDocuments/VUSSCinvitation.pdf).

The creation of what they called the Virtual University for Small States of the Commonwealth 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 should add that at its next Pan-Commonwealth Forum on Open Learning, to be held in Jamaica at the

end of October next year, the Commonwealth of Learning will be offering a prize for a learning object that has been shared, adapted and used in several countries.

Removing the Barriers to eLearning

I now come to the third part of these remarks. What can the key stakeholders, namely governments, institutions and individuals, do to reduce or remove the barriers to eLearning? What must we do to make eLearning an educational revolution?

I start with the interests and roles of governments. National and state governments are attracted to eLearning, as they were to the creation of open universities, by the hope that it can increase access by promoting the three 'E's of efficiency, effectiveness and economy.

In recent decades countries in Asia have greatly increased participation in post-secondary education through their open universities. These institutions 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.

Providing the interactive component of learning is your biggest challenge as open universities, because the quality of the interactive experience does much to define the overall quality of your universities.

If those are some of governments' interests in eLearning, what should they do to advance them? Governments' role is to create the context and frameworks in which eLearning can flourish. This is a crucial task in developing countries, where the context for eLearning is usually unfavourable, but it can also be helpful in rich countries too. In Canada, for example, the federally-funded programme CANARIE has done much to advance eLearning across the country.

Creating the Infrastructure

A first role for governments is to facilitate the creation of core infrastructure and to encourage people to develop eLearning content. Governments can promote the creation of Learning Object Repositories to make this content accessible.

Related to infrastructure is the key issue of copyright. Educational institutions, including Asian open universities, may be unduly 'copyright-shy' through ignorance about copyright laws, their countries' copyright exemptions and ways of using copyrighted materials legally.

Barriers of Bandwidth

A second role for governments is to help reduce barriers to eLearning by making bandwidth available and affordable. Bandwidth is sometimes limited because of telecommunications legislation and telecom company monopolies. Furthermore institutions do not usually buy bandwidth jointly in bulk and they use bandwidth inefficiently through lack of policy and poor management. Also, the lack of affordable Internet terminals off campus calls for accessible kiosks and study centres.

The issue of access to telecommunications handicaps many developing countries. Their institutions can pay over 100 times more for Internet access than in the industrialised world. An individual in an industrialised 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 adequate 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 to citizens and institutions. Expensive connectivity handicaps institutions and countries.

Institutions can tackle some issues themselves. When they 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. There may be a role for organisation like the AAOU to facilitate the creation of bandwidth cooperatives in and across developing countries by using their own clout with suppliers.

There is never enough bandwidth and expanding the bandwidth available 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 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 normal patterns of information use follow 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.

I realise that this kind of talk sounds quaint to those of you from highly connected countries, because you have lots of bandwidth and can be profligate with it. However, bandwidth will be a persistent problem in developing countries for years to come.

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. eLearning programmes must take this into account. Managers of open universities must understand what access to technology their learners and staff have; for example to cellular phones and radios as well as to the Internet. Governments could subsidise kiosk prices and institutions should provide Internet access at study centres 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 (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

First, looking at 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. Although open universities may already have a general policy framework that is appropriate for eLearning, they may still find developing policy on OERs a serious challenge.

If a high quality open university makes its self-instructional materials freely available it could create a clear threat to its core business. Can your open universities make OERs available to other developing countries without giving competitors at home the opportunity to compete against you with your 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. Whilst there are similarities between the eLearning business model and the organisation and management of older forms of multi-media distance learning, there are also differences. You must be ready to invest in adapting to the new dynamic of eLearning although you may not see returns for years. Training in eLearning is vital for both faculty and technical staff, especially in open universities where it presents such an important opportunity.

Training and sound information are particularly important in the choice of learning management systems. The business of developing such systems, both proprietary and open source, is alive and well. One result is that these systems 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 (www.col.org/resources/publications/Pages/detail.aspx?PID=31). 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 and serve as a guide for the training of support staff.

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.

ELearning is often touted as student centred. To make this true this requires careful planning of student services and student aid. Some services will need to be available continuously and open universities will need to ensure that their study centres support eLearning in convenient ways for students.

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. However, once these smaller countries have mastered the production and delivery of eLearning programmes, I expect they will be delighted to collaborate with your open universities and take advantage of your rich intellectual resources.

Creating the eLearning Revolution

We shall end by putting the challenge to you. How do we enhance collaboration between partners? What can we do to foster the eLearning revolution in ways that help learners in developing countries?

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 organisations like MERLOT in the USA and virtual forums, such as those organised by the International Institute for Educational Planning, which 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 objective way. Hewlett wants to help create an international eLearning community of practice.

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 critical factor in its expansion. eLearning is liberating for trained academics 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, 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

It is time to conclude. We encourage the Asian open universities to harness their energies to the goals that we have laid out. There is enormous pent-up intellectual creativity among the billions of people in the developing world but existing models of post-secondary education were too expensive and too inflexible to respond to their needs. Asia's open universities have already made great strides in widening access. Can they use eLearning to make another quantum leap towards greater access, higher quality and lower costs?

Our aim must be to combine connectivity with open educational resources and create a global intellectual commons accessible to the whole of humankind.

References

Daniel, J.S., (1999) Mega-universities and Knowledge Media: Technology Strategies for Higher Education, Kogan Page, London

Daniel, J.S., Kanwar, A., and Uvaliæ-Trumbiæ, S. (2005) Who's Afraid of Cross-Border Education? A Developing World Perspective, Higher Education Digest Issue 52 Supplement, CHERI London pp. 1-8

D'Antoni, Susan (2002) Bridging the digital divide: Can online learning help, Presentation at the 7th Annual GATE Conference, 18-20 September 2002, Paris.

Jung, Insung (2005), "Quality Assurance Survey of Mega-Universities" in C. McIntosh (Ed.) Lifelong Learning and Distance Higher Education, UNESCO-COL, Paris/Vancouver, 2005

Prahalad, C.K., (2004) The Fortune at the Bottom of the Pyramid: Eradicating Poverty Through Profits, Wharton School Publishing

Prahalad, C.K., and Hart, S., (2002). 'The Fortune at the Bottom of the Pyramid', Stategy+Business, Issue 26.

UNESCO (1998) World Declaration on Higher Education for the Twenty-first Century, UNESCO, Paris

UNESCO (2003) Final Report, Meeting of Higher Education Partners, June 2003, UNESCO, Paris

UNESCO (2005) Towards the Establishment of a Mediterranean Network for the Recognition of Qualifications and Quality Assurance: Draft Internal Evaluation, Working Paper, UNESCO, Rabat

Uvaliæ-Trumbiæ, Stamenka, and Varoglu, Zeynep (2003), Survey of the 2002 Breaking News and the UNESCO Global Forum on Quality Assurance, Accreditation and the Recognition of Qualifications, Report, The Observatory on Borderless Higher Education (OBHE)

Varoglu, Z. (2005) The Higher Education Open and Distance Learning Knowledge Base, in C. McIntosh (Ed.) Lifelong Learning and Distance Higher Education, UNESCO-COL, Paris/Vancouver

Zemsky, R. and Massy, W. F., (2004a) Thwarted Innovation - What happened to eLearning and why? The Learning Alliance for Higher Education, USA

Zemsky, R. and Massy, W.F., (2005b) Why the eLearning boom went bust. The Learning Alliance for Higher Education, USA www.missouri.edu