Knowledge management strategies for distance education

Sir John Daniel

In nearly all 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. New approaches to open and distance learning (ODL), 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 multinational corporations that produce and deliver many of the goods and services that richer people enjoy. If they live in rural areas, they have also been largely ignored by government services and providers of higher education.

I believe we should change this bad situation and 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 (COL) is making a modest contribution to this transformation.

Development – how to achieve it?

Development and freedom feed on each other. Development enhances the freedom of people and free people enhance development. It is a virtuous circle. The question then becomes: how do you start the process? How do you get this virtuous wheel to start turning? Human learning is the most effective mechanism for development.

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.

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 (MDGs) 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 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.

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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 that the poorer countries simply will not be able to satisfy in conventional ways. New ways of expanding secondary education are needed.

Health

Three MDGs are related to health. 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?

COL is helping to expand and improve learning in each of the areas I mentioned. We do it by using technology to expand the scope and scale of human learning.

Hunger and poverty

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 Information and Communication Technology (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.

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, the United Republic of 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 COL is doing through its partnership with the World Health Organisation (WHO). We train local WHO representatives to expand their impact by using distance education in their work with non-governmental organizations (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 created a system of village cinema by providing an NGO with video equipment and training local people to use it. More than one-third of the country’s population has seen these videos about HIV/AIDS and malaria, and the government says that they have led to healthier behaviour and a decline in infection rates.

Latest developments

An exciting recent development is Open Educational Resources. This is linked to the free open source software movement, which enables people to 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.

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”. This is how content is being developed for the Virtual University for Small States of the Commonwealth (VUSSC). COL brought together educators to a training workshop where they learned to use a web-based system to collaboratively develop content. These courses are freely available to teachers anywhere; they can readily access excellent electronic materials and adapt them to their own teaching needs.

Open Educational Resources 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 multinational 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 per cent of the relevant age group were to have access to 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.

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 developing countries 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.

This is an excerpt from “Learning for All: The Critical Role of Open and Distance Learning in National Development”, a speech delivered to the Namibian Conference on Open Learning, Windhoek, Namibia, 30 August 2005.

Biographical notes

Sir John Daniel is President and Chief Executive Officer of the Commonwealth of Learning. Before joining the COL Sir John was Assistant Director-General for Education at UNESCO where he headed the Global Education for All programme.
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