eLearning for Development: Using information and communications technologies to bridge the digital divide

By Sir John Daniel

Abstract

eLearning has the potential to make an important contribution to reducing educational deprivation, which in turn can aid progress in achieving development goals. The major obstacles to eLearning are connectivity, equipment, software and training of people. The Commonwealth of Learning is leading several initiatives to overcome these obstacles and help bridge the digital divide.

The use of eLearning is on the rise with the digital generation growing exponentially. In addition to providing education at the primary, secondary and post-secondary levels, eLearning plays an important role in ongoing professional development for adults in the workforce. As the world strives to meet development goals, there is increasing recognition of the potential of eLearning to meet growing educational challenges.

What is eLearning?

The term "eLearning" came into regular use around 2000. Its precise meaning is not widely understood. The definition of eLearning can be as simple as "the delivery of a learning, training or education programme by electronic means, involving the use of a computer or electronic device".

The major omission in that definition is the other two "Ds" in addition to "delivery". A more accurate definition is "the design, development and delivery of learning programmes by electronic means".

Ten years ago, at the height of the dotcom frenzy, enthusiasts argued that all education would quickly migrate to the computer screen, making traditional methods of education, including traditional methods of

distance education, obsolete. However, many of those who tried to create pure eLearning programmes – relying entirely on the computer – either went broke or ended up adopting an approach that blends electronic learning with other forms.

All forms of eLearning bump up against a major obstacle: the digital divide. This is the lack of access to information and communications technologies (ICTs) by segments of the population. Even if the electronic equipment (a CD-ROM or DVD) is only a small part of the course, the student who cannot access appropriate equipment is disadvantaged. This is the fundamental challenge for the introduction of electronic media into distance education, especially in developing countries.

The Promise of eLearning

eLearning offers many important advantages:

• **Anywhere, anytime learning**. Learners can pursue their studies at their convenience and are not limited by geography or time constraints. This is of particular benefit to people who face barriers to learning such as living in a remote location, discrimination based on gender or having competing work/home responsibilities.

• **A window to a world of learning**. eLearning allows online access to a huge array of resources – the libraries and museums of the world, and much more.

• **Faster communication**. eLearning speeds up communication. Students benefit from timely feedback, and electronic submission of assignments eliminates delays in transmission.

• **Access to a global intellectual commons**. A rapidly expanding array of open educational resources (OERs) is available online as people contribute eLearning materials to online repositories. These materials can be freely used and adapted, resulting in time and cost savings.

Measuring Effectiveness of eLearning: the Four 'A's

By combining connectivity with shared courseware into a new business model we could increase access to education massively. What is required for this to happen? For eLearning to succeed, it must be accessible, appropriate, accredited and affordable.

1) 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.

2) 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? 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 there is a growing skill base among educators to do this.

What about Copyright?

Increasing the volume, appropriateness and quality of OERs also requires a solid understanding of copyright. 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 Organization (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. COL is promoting awareness of ways that they can save money perfectly legally.

3) 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. Research into quality assurance in the mega-universities reveals that they are 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.

The Virtual University for Small States of the Commonwealth (VUSSC) is developing a Transnational Qualifications Framework (discussed below) that will also help with transfer of accreditation among institutions and nations.

4) Is it Affordable?

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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 they can reduce the cost of course development they certainly have the potential to do so for the institution seeking to expand access through eLearning.

Answers to these four questions are vital to the expansion and effective use of eLearning.

Obstacles to eLearning

Standing between the promise of eLearning and reality in developing countries are four significant obstacles: connectivity, equipment, software and training.

1) Connectivity

Limited connectivity in many developing countries impedes access to online learning. One of the keys to overcoming this obstacle is publicising the developmental benefits of connectivity so that governments make wise decisions about regulating and taxing telecoms.

2) Equipment
eLearning obviously requires equipment. This is becoming more widely available; rapidly in the case of mobile phones, less rapidly in the case of computers. However, the cost of computers is dropping steadily and there are many schemes to recycle good used computers from developed countries. Initiatives such as One Laptop Per Child and other attempts to make low cost functional computers have spawned dozens of inexpensive models from commercial computer manufacturers, increasing access to necessary equipment for eLearning.

3) Software
Software enables educators to design and develop learning content. While proprietary software has in the past constrained educators, there is an encouraging trend towards greater openness. Open standards enable private software companies and open source developers to speak the same language, leading to a wide choice of browsers, editors and authoring tools that produce interoperable content.

4) Training
No combination of connectivity, equipment and software will achieve anything if people aren't trained to use it. While training is often built into ICTs, it is still helpful to seed that process with some formal training.

The Commonwealth of Learning is helping to overcome these obstacles and expand the availability, affordability and quality of eLearning through several initiatives.

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A Virtual University for Small States

The Virtual University for Small States of the Commonwealth (VUSSC) is helping to overcome the training obstacle and the disadvantages of small size, remoteness and limited resources by expanding eLearning in tertiary institutions in small states of the Commonwealth.

Although most of the 32 small states of the Commonwealth have one or more post-secondary institutions, their limited programme offerings mean that many students must travel abroad to study. This has a high foreign exchange cost, and a proportion of students never come back home: the average migration rate of those with tertiary education from these small states is 44% compared to the Commonwealth average of 18%. Strengthening the range and credibility of tertiary offerings is an important priority.

VUSSC is helping countries expand course offerings collaboratively. The VUSSC network involves almost all the Commonwealth's 32 small states, which are now the principal actors in its management. Thanks to the collective efforts of VUSSC partners since 2004, hundreds of government officials and staff members of tertiary institutions have acquired advanced ICTs skills, eLearning materials have been created in six professional areas and a widely recognised system of accreditation has been established.

By acting collectively, small states can share the costs of capacity-building and programme development, and become leaders in the age of eLearning.

WikiEducator

WikiEducator.org provides a platform for educators to create free eLearning content that anyone can edit and use. Launched by COL in 2006, WikiEducator is used extensively for the development and dissemination of free educational resources.

WikiEducator is an evolving community focused on collaboration in:

• planning of education projects linked with the development of free content,
• development of free content on WikiEducator for eLearning,
• building of open educational resources (OERs), and
• networking on funding proposals developed as free content.

Anyone can edit content and make contributions. Use of WikiEducator is free, and users don't need a high level of technical skills. By radically expanding the availability of free learning content, WikiEducator is improving access to education globally.

The growth of WikiEducator is supported by Learning4Content, an initiative that has provided free wiki skills training to more than 2,300 people in over 200 countries. In return for free training, participants are asked to contribute a learning resource. So in addition to building capacity in online skills, Learning4Content is expanding COL's library of free learning materials.

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eLearning for Professional Development

International organisations are harnessing the power of eLearning to widen access to professional development for staff, especially female and junior workers based in field and country offices. Usually using a combination of online communication, CD-ROMs and print materials, COL's eLearning programmes are tailored for each organisation so that learners can easily apply what they are learning to their daily occupations. The programmes provide learning in areas ranging from effective communication and report writing to operational data management and debt management. A high average completion rate (80%) and a growing list of clients reflects the success of this approach to professional development.

COL has also developed several university level eLearning courses – the Commonwealth Executive Masters of Business Administration, Masters of Public Administration and Professional Diploma in Legislative Drafting – to build skills among government and business professionals in Commonwealth countries.

Teacher Training

The task of training a large new generation of teachers is enormous and urgent. As school enrolments rise dramatically and the demands placed on teachers increase, the need for quality teacher development is growing dramatically. eLearning is an effective way of developing quality teachers who can help deliver on the goal of universal primary education.

Teacher training institutions in developing nations are building up and introducing new eLearning programmes. Organisations such as Nigeria's National Teachers' Institute are launching ambitious eLearning initiatives to upgrade the qualifications of in-service teachers. COL is supporting these initiatives by providing training in instructional design, audio and video script writing, video production and designing eLearning materials, as well as advocacy, facilitating partnerships and quality assurance.

The "Green Teacher" course, developed by COL and the Centre for Environmental Education (CEE) in India, is a Diploma in Environmental Education for teachers. This innovative eLearning programme combines face-to-face sessions with distance learning. The learning materials include an interactive CD containing useful environmental education tips and aids for classroom teaching. The one-year course is aimed at upper primary school teachers in India and South Asia. Environmental education is a priority in India; the Supreme Court recently ruled that "the environment" should be a compulsory subject in all schools. By broadening access to environmental education, the Green Teacher programme is making a contribution towards sustainable development.

As educators continue to discover the potential of eLearning, they will help learners seize opportunities and help people in small states acquire the skills and training they need to improve their livelihoods and contribute to development in their country.

Organisation Information

The Commonwealth of Learning is an intergovernmental agency created by Commonwealth Heads of Government to encourage the development and sharing of open learning and distance education knowledge, resources and technologies. COL is funded by voluntary contributions by Commonwealth member governments.

Author Biography

Sir John Daniel became President and CEO of COL in 2004. Previous positions include serving as UNESCO's Assistant Director-General for Education, Vice-Chancellor of the U.K. Open University and President of Laurentian University. He was knighted by Queen Elizabeth for services to higher education and holds 28 honorary doctorates.

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