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Virtual paths, real gains

The developing world's need for higher education, says Martin Bean, can be met by the digital delivery of open educational resources.

Widening access to higher education is one of the great global challenges of the 21st century. Higher education is the key to creating the educated and skilled workforces that developing countries need to grow their economies and to ensure a better life for their citizens, but existing higher education systems and institutions effectively exclude large numbers of the world's population.

Given the scale of the demand, it is not logistically or economically feasible to build and staff enough traditional bricks-and-mortar universities to bring one within the reach of every aspiring student in the developing world. So we need to make a radical shift and move away from the current model of higher education, which we have inherited from the 19th and 20th centuries, and towards new systems that reap the benefits of 21st-century technologies.

To get an idea of what the future could be like, we can look at what is already happening. In Africa today, a revolutionary programme called Teacher Education in Sub-Saharan Africa (Tessa) has been made possible by the internet. Operated by a consortium of national and international educators, at its core is a bank of teacher education resources, created by a team of specialists and made available online as open educational resources that support teacher learning in the classroom. Tessa has reached more than 400,000 primary school teachers in nine African countries since 2005.

Projects such as this demonstrate what we can do with open educational resources. These resources are scalable: high-quality learning material can be created by a relatively small number of experts and then scaled up to benefit thousands or tens of thousands of students.
They are also flexible: Tessa resources are available in multiple formats, from online to print, to suit whatever local facilities are available. They are also adaptable, so schools, teacher trainers and classroom teachers can modify them to fit their own needs and circumstances. And, of course, the resources are free to those who choose to use them.

The Tessa model is now being applied in another area where the need for skilled personnel is urgent: healthcare. A lack of skilled front-line health workers has been identified as a significant obstacle to achieving key goals in the developing world, such as improving mother and child health, managing HIV/AIDS and malaria, and reducing mortality. Health Education and Training (Heat), a major programme, is under way in Ethiopia; it involves training community healthcare workers all over the country using a bank of learning resources that are complemented by practical training. These resources are available online and offline, providing a comprehensive curriculum that covers topics such as post-natal care, the integrated management of newborn and childhood illnesses, family planning, hygiene and environmental health, and communicable diseases. It also means that healthcare workers can be trained in post, in contrast to the traditional model that saw them sent away to study for up to 18 months, leaving their communities without healthcare provision.

Access to mobile devices is growing throughout the world. In Bangladesh, the national government is supporting a programme called English in Action to raise the standard of English teaching in its schools. The majority of the country's teachers are based in rural locations and isolated from traditional sources of training and support. But via their mobile phones they can access multimedia resources that are being used to train teachers in the classroom, with the support of a network that includes teacher facilitators and trainers who organise meetings, workshops and school visits. English in Action aims to benefit 15 million primary and secondary school children by 2017.

These are just some of the programmes that The Open University is involved in and that demonstrate the potential of information and communications technology and open educational resources to bring high-quality higher education to large numbers of students at lower cost and at greater speed than could be accomplished by expanding higher education in its conventional form.

And ICT can give students a learning experience that is second to none. For example, the Wolfson Foundation is currently supporting the development of an online laboratory called OpenScience. It will give science students across the globe virtual access to state-of-the-art laboratories and equipment, allow them to access real data and equipment remotely and enable them to collaborate and share knowledge with other students and teachers around the world.

ICT-mediated, accessible and flexible modes of learning such as this have the potential to change the nature of higher education. This is not just about bringing higher education within reach of many more people; it is also about creating worldwide communities of learners, increasing international collaboration in research, and developing more efficient, connected knowledge systems. It will transform universities into more inclusive, internationally focused institutions, educating a new generation of global citizens.

Postscript:
Martin Bean is vice-chancellor of The Open University. He will speak at a session of Going Global 2012, to be held at the QEII Conference Centre, London, 13-15 March. Going Global is hosted by the British Council, and Times Higher Education is its media partner.