

## ***Achieving Development Goals***

### **Innovation**

#### **In Education and Development**

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What is the role of innovation in education and development?

Innovation is defined as “the process of making changes to something established by introducing something new.” It applies to “...radical or incremental changes to products, processes or services.”<sup>[1]</sup> Over the years there have been many changes in the way education is designed and delivered in parts of the world.

Today, technology is a significant driver behind change, and sometimes plays an important role in innovations in educational design and delivery. There are immense possibilities for greater and wider-spread change with the use of present-day technological advancements, as well as with the implementation of innovative educational programs. The challenge is to ensure that innovation plays a constructive role in improving educational opportunities for billions of people who remain under-served in a rapidly developing world.

The following is one scenario that serves to illustrate the potential impact of technology in education. This scenario may or may not represent an ideal application of innovation and technology; however it is indicative of the link between technological innovation and innovations in educational delivery:

### **A scenario . . .**

*Anne attends evening classes while working full-time. She travels to work by bus, making an hour and half commute each day. After settling in her seat, Anne puts on her headphones and turns on her PDA/cell-phone (a 'smart phone'), which has an audio copy of the lecture from the night before. After class, the evening before, Anne had gone online using her low-cost computer to download the audio recording the lecturer had made. Now she listens to the lecture a second time to fill in gaps that she missed when she was tired in the evening class. Anne also sends a text message from her smart phone to a classmate in order to clarify the meaning of a concept. Arriving at work, Anne is feeling more confident about the concepts that seemed so fuzzy the previous evening.*

*During her lunch break, Anne uses her company computer to browse the class discussion area on the institution's website, and she joins her class colleagues in a brief online discussion. Next Anne begins to tackle her homework, which requires research, discussion of the topic with a class group, and submission of a joint assignment. Anne starts planning the assignment during the afternoon tea break, and at the end of the work day she spends 20-minutes typing the assignment outline and then emails it to her group before saving it on a memory stick and heading home via minibus. En route, Anne catches up on readings. One chapter is from a 500-page book, which is both heavy to carry and very expensive. Fortunately, the institution has digital rights for use of the content by its learners, so Anne downloaded the chapter to her smart phone. Considering her hectic family life, this chapter would likely go unread at home.*

The above scenario might seem familiar to those who have studied by night classes. While it focuses on a learner, the scenario could be similar for teachers, tutors, agricultural extension workers, and other learners.

Technologies that are now available in most Commonwealth countries increase the potential to support learners and educators, and can help remove the barriers of time and distance. New information and communications technologies (ICTs) do not replace all previous ones, nor do they replace the need for good educational design and delivery. However, appropriate technologies can provide additional possibilities for learner support, interactivity, and access to **education**.

*...On the weekend, Anne must travel to visit a relative in a rural area, so she is unable to attend a scheduled discussion group session. The institution broadcasts its discussion groups by radio, so Anne tunes in, and uses her cell-phone to send her comments via text messages that her group leader shares with the group. The cell-phone is affordable and works well outside of city limits where land-lines do not exist.*

### **Innovation** for 'Learner-Centered' **Education**

How can **innovation** and technology offset the barriers of access and mobility that has been a deterrent to **education** in many parts of the developing world?

With the emergence of smart phones, eBook readers, 'Podcasts' and 'Vodcasts,'<sup>[2]</sup> Internet and low-cost computers, as well as solar electricity, cell phone access, and other technologies, comes the opportunity to provide **education** to assist individuals and communities in places under-served by traditional educational institutes.

Technology and other **innovations** enable educational design and delivery to be adapted to the needs and environment of students enrolled in Open and Distance learning (ODL) and traditional educational programs. Thus, technology can also help programs shift to a 'learner-centered' approach to **education**.

### **Needs Driven Approach to Innovation**

The focus must be on achieving **education** and development objectives, not on popularising technical gadgets. However, learners have demonstrated the ability to gain technical proficiency in a variety of software, hardware, and other information and communications technologies (ICTs). How can **education** systems assimilate this into program design and delivery in order to improve efficiency, control costs, and expand delivery of **education** to larger numbers of people? How will the convergence of communications technologies affect the potential for providing improved learner support?

In an environment in which the postal system is slow or unreliable, traditional ODL can face challenges in program delivery. Today Internet and email has enabled changes in the design and delivery of ODL in many parts of the world. What technologies are accessible for learners in developing countries? In many places, cell phones are in very widespread use, and text messaging is popular for work and personal communications, yet few institutions have adopted this tool. How can instructors and institutes more closely match their educational design and delivery with the technologies to which learners have regular access?

### **Keeping Abreast of Technological Change**

"Although technology should not drive our teaching, technology does drive change"[\[3\]](#).

Today, educators have the challenge of monitoring changes in technologies, determining if they apply to learners living in 'the real world,' and seeking ways to use technologies to complement and support instructional methodologies and practices.

Who will educate the educators? How can educators keep abreast of technological advancements that support **innovations** and improvements in instructional design and delivery? What can institutions, governments, and international organisations do to help educators to master new technologies and tools for creating and facilitating educational opportunities?

### **Challenges, Opportunities, and Barriers**

Given the challenges of insufficient numbers of teachers being trained, teachers leaving the profession, and too few classrooms in developing countries, can technology enable more people to access **education**? Will the next generation of low-cost computers make it feasible for more students in developing countries to have access to this technology? It is not the technology, but the potential it provides for access, efficiency, and enhanced learning opportunities. Computers better enable learners to access **education** through ODL. Learners can use Internet technology to communicate with other students or instructors across a city or around the world. Teachers and students can access information through virtual libraries and the World Wide Web, and use software to master technical as well as academic skills.

The opportunities are immense, but there are also technological limitations in many parts of developing countries. Barriers to technological **innovations** for supporting **education** include inadequate telecommunications bandwidth, lack of trained support staff, and the cost and the availability of simple telephones, cell phones, computers, and electricity.

Here are some questions to ponder in applying **innovation** to enable access to **education**:

1. What processes are needed to provide electricity and broadband access for all educational institutions (e.g. schools, colleges, universities);
2. What processes are needed to provide broadband access to all lifelong learners (adults who can pay reasonable rates for access);
3. What alternatives do institutions have if they are unlikely to be connected to a reliable electricity service in the foreseeable future;
4. What alternatives are there for introducing computers or increasing their numbers in schools and institutions of higher learning; and
5. If computers are to be installed in institutions, what processes are under way to ensure full training and support for teachers and learners to effectively integrate these into the teaching, learning and school management processes?
6. What are the **innovations** in **education** that can help meet the three-billion people challenge?

### **Innovation for Education for Development**

The challenge of closing the ever-widening gap between the haves and have-nots may rest with the willingness of the **education** community to view **education** from a

new perspective —and to innovate. This may include making use of affordable and accessible technologies to expand access to **education**. It may also require other innovative process or service strategies that do not rely on technology. It may require a shift in focus, to target educational and training programs to align more closely with what people identify as their most urgent needs.

Providing **education** in new and unconventional ways is only one of a number of solutions, but it is through **innovation** that we can meet the challenges of improved efficiencies, lower costs, increasing accessibility, and greater success in achieving development goals through **education**.

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[1] <http://en.wikipedia.org/wiki/Innovation>

[2] [http://mobiled.uiah.fi/?page\\_id=3](http://mobiled.uiah.fi/?page_id=3)

[3] <http://www.tonybates.ca/workshops/workshops.html>

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