Making Open and Distance Learning Inclusive: The Role Of Technology

Distinguished Colleagues, Ladies and Gentlemen. I am really pleased to be here in Muscat for the first and thank Dr Mohammed Jemni and the organisers of ICTA for the invitation. My topic today is 'Making Open and Distance Learning Inclusive: the role of technology' that I have prepared jointly with my colleague Mr Ricky Cheng.

My organization the Commonwealth of Learning has signed an MOU with ALESCO to work together on areas pertaining to ICTs in Education but particularly on Open Educational Resources or OER, where we have a close collaboration.

First a word about my organization the Commonwealth of Learning or COL. COL is an intergovernmental organisation created by Commonwealth Heads of Government when they met in Vancouver in 1987. Canada came forward to host the organisation and our headquarters are in British Columbia.

As you know, the Commonwealth has 52 Member States that span all regions of the planet—from the Caribbean and North America to Europe and Africa, Asia and the Pacific.

What do we do? Our mission is to help Commonwealth Member States and institutions to use open and distance learning and technologies for expanding access to quality education and training.

COL believes that learning is the key to sustainable development. Learning must lead to three things: economic growth; social inclusion and environmental conservation.

This aligns us with Goal 4 of the 17 Sustainable Development Goals. SDG 4 aspires to provide inclusive and equitable quality education and lifelong learning for all by 2030. Inclusion and equity are central to this Goal—how can more people with disabilities be included in education at all levels? How can we achieve this ambitious target?

In addressing the theme of 'Making Open and Distance Learning Inclusive: the role of technology', I will first review the context relating to access to education. I will then look at what we mean by distance education and review whether Open and Distance Learning (ODL) institutions in different parts of the world are inclusive. We will explore the role of technologies. Finally, I will look at some of the ways in which we can make ODL more inclusive.

But first the context.

In the 1970's, 10% of the global population suffered from one form of disability or another. Forty years later, the numbers have increased and there are an estimated 1 billion people or 15 % of the population who are affected by some form of disabilities. The numbers are expected to grow further due to conflicts, poverty, ageing populations, among other factors.

In the MENA region, the reported disabilities range from 0.7% in Egypt to 3.2% in our host country Oman. There is a wide difference between global averages and the regional estimates for people with disabilities. What could be the reason? Is it because the definitions of what constitutes disability are narrow in this region? Or fear of societal stigma? For example, in 2001, a survey held in Canada reported very few people with disabilities—but in 2006, there was a huge change when one out of seven people reported a disability. One reason for this was that there were fewer stigmas associated with admitting to a disability and therefore a greater willingness to report. (Accessibility to elearning for persons with disabilities: strategies, guidelines, standards, NorQuest College, 2008, p.11)

Globally, 186 million children with disabilities have not completed primary school. The situation is worse in developing countries where 90% of the children with disabilities are out of school.

With 95% of the children with disabilities out of school in the MENA region, the plight of children here is no different from their other developing country counterparts. From the data available for our host country, over 56% people with disabilities were illiterate, 10.6% had completed secondary school, nearly 2% had done diplomas and 1.8% had completed university in 2010. How does this compare with the rest of the world?

In the US and Canada, access to tertiary education for people with disabilities is similar at nearly 11 %. Australia has over 5 % people with disabilities in tertiary education while the percentage drops to 1% in South Africa and .56 % in India. In fact in South Africa, 80% of disabled people aged 20-24 are not in tertiary education.

This diagram from the World Bank (2005) shows the link between disability and discrimination and how people with disabilities are excluded from education and employment, which sets into motion a cycle of poverty and further exclusion and discrimination. Adults with disabilities, especially women have less access to employment opportunities than their peers without disabilities, as per a report from ESCWA (Eco and Social Commission of Western Asia, 2014)

The UN Convention on the Rights of Persons with Disabilities, ratified by over 160 countries including 21 of the 22 ALESCO Member States highlight the responsibility of the global community and the national governments to provide education and employment for people with disabilities.

Recognising the challenge faced by people with disabilities in the region, the Arab Decade for Persons with Disabilities was instituted. This resulted in important measures—the majority of MENA countries have now included articles on disability in their constitutions, and devised new laws and policies to align with the UN Convention. Legal provisions to provide employment led to affirmative action for people with disabilities in Egypt, Lebanon and Tunisia.

Even in OECD countries, one out of every two people with disabilities is unemployed. Including people with disabilities in education and employment is not just a philanthropic aspiration. It has a direct impact on development. A study carried out in ten low/middle income countries reveals that excluding people with disabilities from the labour market led to a loss to GDP of 3 to 7 %. So there is also an economic argument to be made for inclusion.

Significantly, the global community had not realized this in 2000, when the Millennium Development Goals were adopted. The 8 goals with its 21 targets did not refer to disability even once.

However, this has been amended in the SDG's, especially Goal 4, which aspires to achieve inclusive and equitable quality education for all by 2030.

In fact two of the ten targets in SDG4 draw attention to the need to i) eliminate disparities for people with disabilities and ii) to provide infrastructure and materials for improved access to education.

If governments are to achieve these ambitious targets, they need to adopt alternative and innovative approaches. How can we increase access and equity, lower costs and improve quality? Within this context the role of open and distance learning becomes more relevant than ever before. What is ODL?

Distance education is the delivery of learning or training to learners who are separated, mostly by time and space, from those who are teaching and training. Because learners and teachers are separated by time and space, some kind of technology or media must be used for communication between them.

Open learning means that there are minimal barriers to entry in terms of age, gender, prior qualifications. The term open learning describes policies and practices that permit entry to learning with as few barriers as possible. Although open learning and distance education are distinct, they are clearly complementary. If we open up learning, we also need to introduce some elements of distance education. Similarly if we introduce distance learn, we open up educational opportunities to more people. Therefore, it has become common to bring these two terms together in the expression open and distance learning or ODL. This captured the imagination of policy makers and led to the establishment of open universities such as Al Quds Open University, Arab Open University and the Open University of Sudan.

Increasingly more open universities are using technologies. There has been a greater focus on the use of technologies. Several new terms are now being used elearning online learning and virtual learning to mean that the learner uses a variety of media, not just computers, to learn. These are different forms of distance learning. Another recent term, that reflects the growing trend of mixing ODL with conventional face-to-face teaching, is flexible or blended learning.

There has been a huge growth in the number of open universities in the developing countries of the Commonwealth. In 1988, when COL began its operations, there were only 10 open universities in the Commonwealth—3 in Canada and only one in Africa, that is UNISA.

Today there are 30 open universities in the Commonwealth. You can see that only one remained in Canada, the other two having merged with campus universities. On the other hand, the growth has been phenomenal in developing countries as governments struggle to increase access to higher education. Nigeria, Tanzania Zambia and Mauritius all established open universities during this time. The next wave of open universities will be in Africa.

A study by the National Knowledge Commission, India, shows that mega-universities, which achieve economies of scale cost substantially less than campus institutions. Pakistan's AIOU costs 22%; China 40%; India's IGNOU 35% and the OUUK, 50% as compared to campus universities.

There has been an increasing trend towards online learning even in developed countries. This Slide gives you an idea of this rapid growth over four years. This shows that 30% of all higher education students are taking at least one distance or online course in the US. As technologies become more available both developing and developed countries will move towards more online and distance provision.

Is there any difference in learning outcomes between campus and distance learning provision? As research tells us, there is no significant difference between the effectiveness of face to face and online provision. On the other hand, there are significant cost savings as this study by Insung Jung shows. While face to face costs per participant were USD 6.7, the same training was offered online at USD 3.7 with comparable outcomes.

ODL and elearning can certainly drive down costs. What of quality? The Open University is among the top ten universities in the UK for student satisfaction and ranks high in global rankings for research, innovation and use of ICTs.

Openness is an evolving concept and the three aspects of openness, that is access, content and technology are interrelated. Open universities have already increased access, as we have seen.

Open Educational Resources or OER are a fairly new dimension of openness. With the rise of social media, there has been a global movement towards collaboration in the development and sharing of content as OER. The fundamental principle is that any materials developed with public funds should be made available free to others to use as required under an open license. Now there are millions of pages of open content available on the web. But are OER available in multiple formats that can be easily accessed by people with disabilities?

The third pillar of openness is technology—one manifestation of which is the MOOC platform. This makes the world a connected classroom and allows us to offer free online courses to thousands of students around the world. To what extent are MOOCs disabled-friendly?

Research shows that more and more people with disabilities are joining ODL institutions. First, ODL is convenient for them as they can study at their own pace, place and time. They don't need to travel to campus or seek accommodation near the institution. Second, ODL is more flexible and offers content in various formats so learners can read, listen or watch lectures. Third, ODL is more affordable as it costs significantly less than campus based instruction. Finally, ODL also provides a degree of anonymity— where students with disabilities can interact with professors and peers without feeling discriminated.

Since ODL is preferred by PWD, is it inclusive? Let us look at some of the practices of open education around the world.

In Australia the Disability Discrimination Act requires that every child must be in school until 17 years of age. An Open Access College was established to provide schooling using ODL so that children with disabilities could complete school in a flexible, cost-effective and convenient manner.

The Open University UK has a policy on Securing Greater Accessibility which ensures that all students regardless of access achieve comparable learning objectives. The university closely monitors its performance against a 4-stage model of professionalism in accessibility. It attracts the largest number of students with disabilities in the UK. In 2014, 19000 students with disabilities, that is 12 % of the institution's student population, enrolled in the undergraduate programme.

In the University of South Africa, the number of students with disabilities has grown by 59% between 2007 to 2011. The total number of disabled students may be comparatively small at nearly 2500, but the numbers seem to be increasing. The university has set up a Resource Centre which provides personalized services to students including texts in Braille, and providing services in sign language.

Athabasca, Canada's open university, has a special provision for providing access to students with disabilities. In addition to advocacy, they provide courses in alternative formats, access to assistive technologies, exam accommodations and referral services.

AIOU, Pakistan offers free education to all disabled students up to to PhD level. They have initiated this process from this year with an initial enrolment of 400 students.

OUT helps students with visual disabilities to access tertiary courses through assistive technologies.

KKHSOU has recently developed and adopted a policy for people with disabilities. Appropriate funds and resources have been allocated for this purpose and will include a resource centre and rehabilitation support.

All these ODL institutions are committed to inclusion as it fits with the social mission of the university which is to open up access to as many people as possible, but particularly the unreached segments of society. Different institutions are at different levels of advancement in this field—some of them are at the policy stage while others have much success to share. But in all cases we note a growing convergence between ODL methodologies and ICTs and Assistive Technologies. The services provided include a range of accommodations—providing courses in alternative formats; providing extra time for exams; external support such as sign language interpreters and access to AT.

Available and emerging technologies can help us make ODL more accessible than it has been hitherto.

There are major advancements in assistive technologies to improve the lives of PWD in education and employment. How can we harness these to attract more PWD into education and lifelong learning?

Most people today have mobile devices with assistive technologies built in. For example, you can convert text to speech using a smartphone; or you can convert speech to text by giving dictation into your device. Zoom and magnification help people with vision impairment. Smartphones also provide Braille support for web browsing. How can we optimize these devices for learning?

Several mobile apps have been developed to assist people with various disabilities related to vision, hearing, autism, learning disabilities and mobility. How can we use these apps to provide personalized learner support?

Developments in AI and Robotics offer various possibilities for PWD. For example, AI can provide vision-free communications for the visually impaired while Robotics can extend the arm of someone who has lost a limb or provide caregivers. Smart cities are combining AI, Robotics, Internet of Things to open up a world of possibilities to PWD. Can the same model be applied to creating smart institutions?

Virtual and Augmented Reality can support PWD to experience new situations without leaving the comfort of their homes. Social skills and empathy are important for success in the 21st century. Virtual Reality can help us to teach these skills to PWD. Augmented Reality can support the development of life skills among PWD.

Inclusive Design Institute, Canada has developed open source software to make websites accessible for PWD. Anyone can adopt and adapt this free service for their purposes.

Even with so many opportunities that emerging technologies promise, we must be aware of the barriers that need to surmounted. The first is the physical barrier when access to places, content and services is not available. Cognitive barriers refer to lack of special provisions for people with learning disabilities. Content related barriers could be linguistic, when materials are not available in the mother tongue of the learner or in the appropriate accessible format. Didactic barriers are experienced when teachers are not appropriately trained for handling students with disabilities. Learners face financial barriers when they cannot afford the costs of hardware or software. These barriers need to be addressed for a rewarding learning experience.

We have seen some of the technologies that have typically been used by ODL institutions. These include print, audio, video, online courses, email, chatrooms and social media. Assistive Technologies in use are voice recognition, braille displays and various mobile apps. The point would be to combine the two from a pedagogic perspective.

To sum up, various ICTs are available to support the different dimensions of learning and for a range of learners with different needs—such as, accessing and understanding content; content creation and interaction and organization and memory.

Can technology be the silver bullet for achieving our targets for inclusion by 2030? For ICTs to be effective we would need to combine the hardware and software of learning.

ODL institutions have a vast experience in learning design for different learners. They must adopt the principles of Universal Design for Learning to further open up access. UDL is based on principles which align well with the social mission of ODL institutions such as equity, flexibility, learner-friendliness. The curriculum must be designed to address a range of disabilities and accommodate a variety of individual needs and preferences from the very outset.

This approach will further encourage PWD to join ODL institutions. Susan Moisey says that distance education can not only increase access but with appropriate learner support enhance success. As Sheryl Burgstahler says, 'making courses accessible to students with disabilities promotes best practices for all students'. Martin Cooper believes that courses designed for accessibility enhance the quality of education in general.

The second strategy for inclusion is to build staff capacity. Staff need training in legal issues, different types of disabilities, the affordances of assistive technologies and ODL methodologies.

COL has developed a diagnostic tool for reading and maths for teachers and is being piloted in the Caribbean. This is a free resource and can be adopted/adapted for other contexts.

COL, ALESCO and UNESCO have been promoting the use of OER as we believe this can increase access and equity, improve quality and cut the costs of education. While there are plenty of free quality resources available on the internet, these are mainly in English. Bookshare is an online library catering to people with disabilities. How can such resources be an exemplar for the OER movement?

COL has developed OER for schools using Braille. Mount Royal College, Canada has developed an accessibility template for web-based courses which is available for open source sharing with their consortium. The Open University UK has invested much effort in making Moodle accessible and offered the developed version back to the open source community.

Finally, since ODL is preferred by PWD, we need to make special efforts to design ODL offerings for PWD. ICT by themselves cannot be a silver bullet for accessibility and inclusion. They must be combined with appropriate content and pedagogy. We need to collect data on PWD and monitor the results of our implementation. A vast amount of content has been translated into Arabic in this region and ALESCO has played a leadership role in this regard. However, more OER are needed in Arabic and for people with disabilities. If we want to enhance the impact of our work, we really need to collaborate and work together for this long overdue common cause.

Thank you for your kind attention.