Open Distance and eLearning in the 4th Industrial Revolution

23 - 25 October 2019

The 4th Open and Distance Learning Conference held by the Namibian Open Learning Network Trust, Windhoek, Namibia

Professor Asha Kanwar
President & CEO, Commonwealth of Learning (COL)

Greetings from the Commonwealth of Learning. It's an honour to be 'virtually' present at this conference hosted by the Namibian Open Learning Network Trust or NOLNET—I think the theme 'The role of open distance and elearning in the 4th industrial revolution' is very appropriate and I am very grateful to the organisers for the opportunity to reflect on it.

As you know the Commonwealth of Learning or COL is an intergovernmental organisation that helps Commonwealth Member States and institutions to use technologies for expanding access to education and training.

We are very grateful for the consistent support that we receive from the Ministry of Education, Arts and Culture, Namibia. COL also enjoys a productive partnership with NAMCOL, NOLNet, NQA and UNAM.

In my presentation, I will first look at the evolving role of ODL in the fourth industrial revolution and then focus on the opportunities that this revolution offers. Finally I will look ahead at three concrete steps that we can take to make ODeL relevant to the needs of changing times.

From mechanization in the first industrial revolution to artificial intelligence and robotics in the fourth industrial revolution we have come a long way —what has been the impact of these revolutions on ODL?

In the first industrial revolution when the steam engine was invented, higher education made a transition from being elite to one which anyone could aspire to. The second industrial revolution was marked by the assembly line and mass production, when it became possible to produce self-instructional booklets and offer correspondence courses. The rise of the computer and internet in the third revolution led to the rise of open universities and today in the fourth revolution marked by AI and Robotics, we have MOOCs and OER.

Fifty years ago, ODL was a disruptive innovation. Clayton Christensen defines disruptive innovation in business as a process whereby a smaller entity with fewer resources is able to successfully challenge established players and displace incumbent businesses by addressing a specific need that had hitherto not been addressed. If we use Christensen's disruptive innovation

model in higher education, we find that open and distance learning (ODL) was the innovation that challenged mainstream face-to-face higher education and catered to marginalized and unreached constituencies.

ODeL as an innovation has evolved and served the needs of different contexts and constituencies. -- from face to face teaching, blended and flexible approaches to entirely online provision.

The philosophy of openness which underpins ODeL guides us to be open to people, places, methods and ideas. But have we really reached the unreached, the marginalized and people with disabilities? How can we harness the new developments in technologies to become more open and inclusive?

Let us begin with Open Educational Resources or OER. These free resources can be reused and repurposed to suit different needs. One key difference between OER and other educational resources is that OER have an open license, which allows adaptation and reuse without having to request the copyright holder. The rise of OER can open up access by providing free content. In Bunda College of Agriculture, Malawi a lecturer developed a communications skills textbook using 75% OER from the internet. A lecturer in Jos, Nigeria who was looking for a similar textbook found this useful resource and was able to use it for his own students.

MOOC platforms allows us to offer free online courses to thousands of students around the world. MOOCs have major implications for both campus-based and open and distance learning institutions. Some institutions allow learners to complete free MOOCs and give credit for those subjects for their formal qualification. We can use a blended approach for MOOCs by offering the courses offline and online and using various devices including mobile phones.

AI is beginning to have a presence in education. Intelligent Tutoring Systems use AI techniques to simulate one-to-one human tutoring and provide immediate feedback, all without the presence of a human teacher. AI helps to analyse and summarise the discussions in online courses so that a human tutor can guide the students towards fruitful collaboration and problem solving. The Open University of Malaysia has developed chatbots for tutoring a course on Object Oriented Programming

Augmented Reality and Virtual Reality technologies have great potential to improve learner experience. However, these are so far available in well resourced urban centres—we can use these technologies to conduct virtual experiments and experience real-life situations without leaving the classroom. These technologies will be particularly relevant for providing skills training at scale.

In the fourth industrial revolution, learners have more choices and will demand greater flexibility. They will move back and forth from academia to employment. This will give rise to networks of multi-versities. Micro-qualifications will be as important as degrees. The faculty will have to become lifelong learners to keep pace with these changes. Are we ready to harness emerging technologies to make learning more affordable, interactive, personalized and interesting?

Let us look at the road ahead. The global community adopted the 17 SDGs of which SDG 4 aspires to ensure 'inclusive and equitable quality education and lifelong learning for all'. How can we contribute?

First, re-focus on lifelong learning. From the very beginning open distance and elearning has catered to the needs of lifelong learners through its flexible and learner-centric approaches. Lifelong learning includes the whole spectrum of formal non-formal and informal learning. As countries need to skill and reskill their workforce, ODeL can be a cost effective option.

Second, address the issue of employability for our youth. Youth unemployment is high in many of our countries. We will need to prepare our youth for livelihoods—employment and entrepreneurship. This will require a curriculum that addresses the needs of industry and society. To create a higher education system that is responsive to the market needs and future requirements, it is necessary to re-imagine our policies and practices.

Third, focus on inclusive education. In developing countries 90% of children with disabilities are out of school. The situation is no better in the tertiary sector. We can integrate principles of universal design in preparing ODeL materials. Assistive Technologies such as voice recognition, braille displays, screen magnification and various mobile apps are already available on smartphones. We need to use these technologies to make ODeL more disabled-friendly.

While technologies are becoming pervasive in the fourth industrial revolution, let us not forget the human, social and moral dimensions. We need to remember the 3-E's: empathy, equity and ethics. As robots take up cognitive tasks which they can perform much better than us, what is special about human beings is empathy—we need to have empathy with our learners and we need to skill our learners to have empathy for others. The costs of the emerging technologies often disadvantages people in remote areas—what policies and practices do we need to put in place to ensure that we don't widen the existing digital divide? Finally, there is the question of ethics—how can we use these technologies ethically to develop good citizens in peace and harmony with the world?

I am sure some of these thoughts will resonate with you and lead to fruitful discussions and action plans. Thank you.