Making ODL Inclusive: The Role of Technology

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Arab League Educational, Culture and Sciences Organisation, ALECSO
Commonwealth Heads of Government Meeting
Vancouver, 1987
The Commonwealth

52 developed and developing nations around the world
To help Commonwealth governments and institutions use technologies to improve and expand learning for sustainable development.
Learning for Sustainable Development
GOAL 4

ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

SUSTAINABLE DEVELOPMENT GOALS
More at sustainabledevelopment.un.org/sdgsproposal
Plan

• The Context
• What is ODL?
• Is ODL Inclusive?
• The Role of Technologies
• Towards Inclusion
Context
Increase in # of people with disabilities

- 1970's
- 2010's

5% increase

1 billion

Source: WHO, World report on disability 2011
MENA Region

- West Bank/Gaza: 4.6%
- Oman: 3.2%
- Bahrain: 2.9%
- Tunisia: 1.3%
- Egypt: 0.7%

Source: ESCWA & League of Arab States, *Disability in the Arab Region - an Overview*, published in April 2014
Access to Education - Global

Children with disabilities...

- 186 million have not completed primary school
- In developing countries, almost 90% are out of school
- In Cambodia, primary attendance of children with disabilities 43% to 93% for those without

Sources:
2011 World Report on Disability, WHO
2016 GEM Report
Access to Education
- MENA Region

• 95% of children with disabilities not in primary school (Peters, 2009)

• Person with disabilities (Oman 2010)
  56.4% illiterate
  1.8% university
  1.9% diploma
  10.6% secondary
Access to Tertiary Education

In South Africa 80% of disabled people aged 20-24 are not in tertiary education.

- USA: 11.1%
- Canada: 10.7%
- Australia: 5.5%
- India: 0.56%
- South Africa: 1%
Disability - Poverty Cycle I
How Persons with Disability are More Likely to Become Poor

• UN Convention on the Rights of Persons with Disabilities (2006)
• Education
• Work and Employment

87% countries ratified the Convention in 10 years

ALECSO countries have ratified the Convention
Arab Decade for Persons with Disabilities 2004-13

• Majority of MENA countries have included articles on disability in their constitutions
• Most national governments have devised new laws, policies to align with the CRPD
• Half the MENA countries had/were developing a national strategy/plan on disability
• Legal provisions to provide employment for people with disabilities: quotas (1-5%) in Egypt Lebanon, Tunisia
Exclusion and Impact on Development

OECD: Employment rate for people with disabilities is 47.3%.

In 10 low/middle income countries, exclusion from the labour market of PWD is 3–7% GDP loss.

Source: Learning for All: Guideline on the inclusion of Learners with Disabilities in ODL, Diane Chambers et al, UNESCO, 2016
Disability and the MDGs

The Millennium Development Goals (MDGs) represent a concerted effort to address global poverty. Yet there is a striking gap in the current MDGs: persons with disabilities, that is, the estimated 1 billion people worldwide who live with one or more physical, sensory (blindness/deafness), intellectual or mental health impairments, are not mentioned in any of the 8 Goals or the attendant 21 Targets or 60 Indicators, nor in the Millennium Declaration.

GOAL 4

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SUSTAINABLE DEVELOPMENT GOALS
More at sustainabledevelopment.un.org/sdgsproposal
• **4.5:** By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including people with disabilities.

• **4.a:** Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all (adapted infrastructure and materials for students with disabilities).
What is ODL?
DISTANCE EDUCATION

= Separation of teacher and learner
OPEN LEARNING
= fewer barriers
and is NOT the same as
DISTANCE EDUCATION

BUT, they are complementary
Therefore: ODL
ODL and eLearning

- Face-to-face teaching
- ICT in support of face-to-face teaching
- Blended learning (face-to-face + online)
- Fully online distance learning
1. AIOU
2. ATHABASCA
3. BCOU
4. BRAOU
5. IGNOU
6. OLA
7. OUSL
8. TELUQ
9. UKOU
10. UNISA

1988 COMMONWEALTH OPEN UNIVERSITIES
2017 COMMONWEALTH OPEN UNIVERSITIES

1. AIOU 16. OUM
2. ATHABASCA 17. OU Mauritius
3. BAOU 18. OUSL
4. BOU 19. OUT
5. DrBRAOU 20. PSSOU
6. GOU 21. TNOU
7. IGNOU 22. UOU
8. KKHSOU 23. UNISA
9. KSOU 24. UKOU
10. MPBOU 25. UPRTOU
11. NOU 26. VOU
12. NOUN 27. VMOU
13. NSOU 28. SOU
14. OSOU 29. YCMOU
15. OUC 30. ZAOU
# Open and Distance Education in Mega Universities

<table>
<thead>
<tr>
<th>Country</th>
<th>Institution</th>
<th>Enrolment</th>
<th>% of Campus Cost*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>AIOU</td>
<td>456,126</td>
<td>22</td>
</tr>
<tr>
<td>China</td>
<td>CCRTVU</td>
<td>2,300,000</td>
<td>40</td>
</tr>
<tr>
<td>India</td>
<td>IGNOU</td>
<td>1,187,100</td>
<td>35</td>
</tr>
<tr>
<td>UK</td>
<td>OU</td>
<td>203,744</td>
<td>50</td>
</tr>
</tbody>
</table>

*Unit cost per student as a percentage of the average for other universities in the country, NKC, 2004.*
Online Enrolment in the USA

11% Increase

## Cost Per Unit Effectiveness

<table>
<thead>
<tr>
<th>Training modes</th>
<th>Cost per completing participant</th>
<th>Total effectiveness points per completing participant (total 300 points)</th>
<th>Cost per unit Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face-to Face</td>
<td>US$1,614</td>
<td>244</td>
<td>US$6.7</td>
</tr>
<tr>
<td>Online</td>
<td>US$901</td>
<td>242</td>
<td>US$3.7</td>
</tr>
</tbody>
</table>

Amongst top 10 universities for overall student satisfaction in the 2017 National Student Survey

86% student satisfaction

Openness: an evolving concept
New Dimensions of ‘openness’: OER

• Free availability of quality content
• Faculty time can now focus on learner support
MOOCs: A Connected Classroom
More PWD joining ODL

CONVENIENT
• Study at your own pace, place, time
• Don’t require to travel to campus or accommodation

FLEXIBLE
• Option to listen, watch or read lecture in different formats

AFFORDABLE
• Costs less than F2F

ANONYMOUS
• Engage with professors and classmates without feeling discriminated
Is ODL Inclusive?
Disability Discrimination Act 1992

Disability Discrimination Act 1992: the act prohibits discrimination against persons with disabilities in employment, education, publicly available premises, provision of goods and services, accommodation, clubs and associations, and other contexts. Discrimination is defined to include failing to make reasonable adjustments for the person.
The Open University

Supporting students with disabilities

• The OU strives to make all aspects of study accessible to everyone, which is why more disabled students choose the OU than any other UK University

• In 2014, around 19,000 such students enrolled at the undergraduate level

• Securing Greater Accessibility policy in place (2010)

• Ensure that all learning objectives must be met regardless of access

Source: Open University – Supporting students with disabilities, last accessed on 14 November, 2017
Supporting students with disabilities

- Produces study material in alternative formats, including Braille, large print, audio and electronic.
- Provides sign language interpretation services in certain of its contact groups.
- 2,469 students (0.8% of total) enrolled in 2011 has a disability.
- The enrolment of students with disabilities has grown by 59.3% since 2007

Sources:
UNISA: [Students with disabilities](https://www.unisa.ac.za), last accessed on 14 November 2017
Supporting students with disabilities

Services provided by ASD (Access to Students with Disabilities):

• Advocacy, Liaison and Referral
• Alternative Format Course Materials
• Assistive Technology
• Course Management Services
• Exam Accommodations
• Learning Support Services

No statistics available on # of disabled students enrolled

Source: Athabasca University – Access to students with disabilities last accessed on 14 November 2017
AIOU offers free education for disabled persons up to PhD level

• The Allama Iqbal Open University will offer free education to physically handicapped, visually and physically impaired students up to the PhD level

• Students will get enhanced facilities including provision of study material through computerized accessibility network

• The number of disabled persons enrolled with AIOU has recently reached 400

Source: Daily Times, AIOU offers free education for disabled persons up to PhD level, published on 13 February, 2017
OUT helps people with vision disabilities access ICT

People who are blind or low vision in Tanzania can now access Information and Communication Technology (ICT) studies following the introduction of a special program that offers computer courses to people with vision disabilities, an initiative launched recently by Open University of Tanzania (OUT).

Source: Global accessibility news - OUT helps people with vision disabilities access ICT, published on 8 January, 2014.
Krishna Kanta Handiqui State Open University (KKHSOU)

- Policy for Persons with Disabilities
- Content in accessible formats
- Provision of various ICTs
- Special Educators provided for support with sign language
- Resource Centre for Persons with Disabilities
- Rehabilitation Support
- Appropriate funds and resources
Open Education and Disabilities

- Inclusion fits with social mission of open universities
- Varying levels of interventions
- Emphasis on convergence of ODL and ICTs/Assistive Technologies

**Services Provided**
- Course Accommodation
- Examination Accommodation
- External Support
- Assistive Technology
The Role of Technology
Assistive Technology (AT)

Definition

products, equipment, and systems that enhance learning, working, and daily living for persons with disabilities.

Source: Assistive Technology Industry Association (ATIA), What is AT?, last accessed on 23 November, 2017
Mobile Devices – Built-in AT features

• Most mobile devices come with assistive technology (AT) that can help with reading, writing and organization.
• Common built-in AT features include text-to-speech and dictation technology.
• Some examples:
  • Made for iPhone hearing aids\(^1\).
  • Use accessibility features with Siri (Voice access)\(^1\).
  • Braille support for Android with BrailleBack\(^2\).
  • Zoom & Magnification\(^2\).

Sources:
Apple.com, [iPhone & iPad Accessibility support](https://www.apple.com/accessibility/), last accessed on 23 November, 2017
Google.com, [Android Accessibility Help Center](https://support.google.com/android/answer/9311420), last accessed on 23 November, 2017
Mobile Apps to Help People with Disability

**Be My Eyes** - a free mobile app designed to bring sight to the blind and visually impaired.

**Avaz** - an augmentative and alternative communication (AAC) tool, notable for being India's first successful AAC intervention.

**Hear You Now** - a free sound amplifier tool.

**Roger Voice** - an app allows deaf and hard of hearing persons to make phone calls by automatic captioning.

**Wheel Mate** - find wheelchair-accessible toilets and parking spaces.
Artificial Intelligence & Robotics

- AI for the visually impaired such as vision-free communications
- Robot caregivers
- Exoskeletons for the Paralyzed
- Smart cities for all
  - ICT accessibility
  - Digital inclusion
  - ICT accessibility procurement policy
  - Database solutions for digital inclusion in cities.

1 Progrss, Four Tools to Design Smart Cities for Persons with Disabilities, published on 11 May, 2017
Virtual Reality & Augmented Reality

**VR**

- Try out-of-reach experiences
- Increase safety for persons with learning disabilities such as autism
- Practice social skills

**AR**

- Help visually-impaired persons to recognize their environments with ease
- Learn essential life skills

Inclusive Design Institute – Fluid project
Barriers to ICT in Education

**Physical** - access

**Cognitive** - specific learning problems

**Content** - language; software

**Didactic** - teachers lack skills; inflexible learning

**Financial** - cost of devices; hardware and software

*Model Policy for Inclusive ICTs in Education for Persons with Disabilities, UNESCO, Euro Agency; G3ict, 2014, p.10*
# Using Technology

<table>
<thead>
<tr>
<th>Assistive Technologies</th>
<th>ODL Technologies</th>
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<tbody>
<tr>
<td>Voice recognition of typing</td>
<td>• Audio, video and interactive multimedia</td>
</tr>
<tr>
<td>Pointing devices (track ball, touch screen)</td>
<td>• Online courses</td>
</tr>
<tr>
<td>Magnification of screen</td>
<td>• Email, Forum and asynchronous tools</td>
</tr>
<tr>
<td>Planning and organisation software</td>
<td>• Chatrooms, whiteboards and video conferencing</td>
</tr>
<tr>
<td>Refreshable braille display</td>
<td>• Social media</td>
</tr>
</tbody>
</table>
ICT and Disabilities

Accessing and understanding content
- Digital learning resources
- Educational apps
- Assistive technologies

Content creation and Classroom participation
- Use of alternate means of content creation such as voice recognition
- Using communication tools to interact with teachers
- Online participation from home

Organisation and memory
- Calendars, memory aids, and organization apps can assist in improving focus
- Memory aids can support learning task

Towards inclusion
Principles of Universal Design for Learning

1. Equitable use
2. Flexibility in use
3. Simple and intuitive use
4. Perceptible information
5. Tolerance for error
6. Low physical effort
7. Size and space for approach and use

Source: http://www.washington.edu/doit/universal-design-education-principles-and-applications
Benefits

‘There is little doubt that distance education can enhance access to students with disabilities and that disability specific support services can enhance success.’
- Susan D. Moisey, 2004

‘making courses accessible to students with disabilities promotes best practices for all students’
- Sheryl Burgstahler

‘learning activities...designed with accessibility in mind ...facilitate learning in a variety of ways and usually exhibit well-considered pedagogy...accessibility is a driver for quality in general’
- Martyn Cooper, 2014
Capacity: Training Staff

• Legal issues
• Disabilities
• Assistive technologies
• ODL technologies
Special Needs Assessment Instruments

- Diagnostic instruments for Reading and Mathematics which are culturally appropriate for students in the English-speaking Caribbean countries
- Pilot tests to be administered in schools in Belize, Jamaica and Trinidad and Tobago
Promote Openness and Sharing

- OER (including exceptions in copyright for people with disability)
- Open Access
- FOSS
OER for Open Schools in Braille

MRS. FRANCES FERREIRA, COL EDUCATION SPECIALIST, OPEN SCHOOLING (LEFT) AND MRS. CAROL WALKER, PROGRAMME ASSISTANT, WITH PRINT OER IN BRAILLE
Way Forward

- ODL institutions need to be more proactive in catering to disabilities
- ICT by themselves cannot serve the needs of PWD but need to be combined with content and pedagogy
- Collect data and monitor the results
- Develop open accessible content in Arabic
- More Collaboration
Thank You

Professor Asha S. Kanwar
President & CEO

Mr Ricky Cheng
Knowledge Services Manager

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