International Symposium on
*ICT in Education: Potential and Lessons Learnt*

September 13-14, 2011
Ulaanbaatar, Mongolia

D.Badarch
UNESCO Representative
Director a.i. IITE
IIITE

Established in 1997, (29th Session of the General Conference)
Governing Board – 11 members
3 Teams
15 staff members

IIITE’s mission is to serve as a centre of excellence and provider of technical support and expertise in the area of ICT usage in education.
IITE’s strategic objectives:

- Capacity enhancement of Member States on ICTs in education through evidence-based policies, teacher professional development and equity access for vulnerable groups.

- Fostering ICT-enhanced learning through knowledge sharing, Open Educational Resources (OER), networking and cooperation.
Focus Areas

- **Policy and Research**
  
  Policy advice and research are major trends of activities at UNESCO. Creating appropriate environments for active learning that reflect economic and social demands is a key to achieve quality education.

- **Capacity Development**
  
  IITE concentrates its efforts on contributing to the pursuit of UNESCO’s strategic objectives by providing deeper and concentrated support and services, specifically through capacity development activities.

- **Knowledge Services**
  
  Knowledge Services Team is responsible for IITE information and knowledge resources and deals with Open Educational Resources (OER) project, IITE website and portal, library, knowledge base and publications.
The integration of ICT in education requires a holistic approach with major shifts in the paradigm of education, requiring significant measures to be taken in educational planning and policy making.
Policy and Research

ICT in Pre-school education

The research analysis the situation with ICT use in ECCE in various countries of the world and proposed recommendations on potential of ICT in ECCE

ICT in primary school education

3 years project
9 experts
Policy Research

Best Practices

ICTs in education for people with disabilities

E-learning in the Republic of Korea
IITE-IFESCCO Project
Analytical Study of ICT in TVET

Meeting of the UNEVOC CIS Regional Network: Networking and Building Capacity for TVET and ESD in the Commonwealth of Independent States
IITE Conference

International Conference IITE-2010
“ICTs in Teacher Education: Policy Development, OER and Partnership

Forum of the UNESCO ASPnet of the CIS and Baltic States

The International Conference “Emerging Information & Communication Technologies in Higher Education-2011”
Capacity Development

IITE e-Course
“Methodology  Preparation of presentation”
“Management of e-Content”
Capacity Development

ITU-UNESCO IITE project
IT center for Blind people
2011 – Armenia
2012 - Kyrgyzstan

IITE- MICROSOFT Project
Resource center on educational innovative technologies
UNESCO ICT COMPETENCY FRAMEWORK FOR TEACHERS
UNESCO ICT COMPETENCY FRAMEWORK FOR TEACHERS
Capacity Development

IITE – ASPnet Project
“SMART SCHOOL”

International Network
of UNESCO Chairs in ICT in Education
Knowledge Services

Theoretical aspects of ICT in education

Media Literacy and New Humanism

Media and Information Literacy Curriculum for Teacher (in Russian)
OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others.
Knowledge Services

The survey of the state-of-the-art of OER was carried out in the Republic of Azerbaijan, Republic of Armenia, Republic of Belarus, Republic of Kazakhstan, Republic of Moldova, the Russian Federation, Ukraine, Uzbekistan, as well as in Latvia and Lithuania.
Knowledge Services

Challenges:
- National strategies are mainly oriented towards infrastructure
- Lack of awareness
- Intellectual property rights
- Quality assessment and assurances
OER Benefits

Individuals
• Learn new things
• Share and discuss
• Improve their performance
• Access and select institutions

Teachers
• Create courses effectively
• Investigate the ways in which others have taught their subject
• Create resources in collaboration
• Join communities

Institutions
• Showcase their teaching and research
• Widen the pool of applicants
• Lower the lifetime costs
• Extend outreach activities
Openness

• **In the social domain**
  – freedom to use
  – freedom to contribute
  – freedom to share

• **In the technical domain**
  – functional (use of open standards)
  – developmental (use of open source software)

• **As a characteristic of the resource**
  – public goods
  – open fountain of goods

(Tuomi, 2006)
Drivers for OER

- **Technological**
  - Increased broadband availability
  - Increased hard drive capacity and processing speed
  - User-friendly software for creating, editing and remixing
- **Social**
  - Digital natives with substantial ICT skills
  - Desire for interactivity, willingness to share and contribute
  - Development of communities and collaborative projects
- **Economical**
  - Lower costs for broadband, tools and lower entry barriers
  - Sites and services hosting content for free
  - New economic models for monetising user created content
- **Legal**
  - licenses such as Creative Commons
## Motivations for producing and sharing OER

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<tr>
<th>Governments</th>
<th>Institutions</th>
<th>Individuals</th>
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<td>Expanded access to learning</td>
<td>Altruistic reasons</td>
<td>Altruistic or community supportive reasons</td>
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<td>Bridge the gap between non-formal, informal and formal learning</td>
<td>Leverage on taxpayers’ money by allowing free sharing and reuse between institutions</td>
<td>Personal non-monetary gain – “egoboo”</td>
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<td>Promote lifelong learning</td>
<td>“What you give, you receive back improved”</td>
<td>Commercial reasons</td>
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<td>Good PR and show-window attracting new students</td>
<td>It is not worth the effort to keep the resource closed</td>
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<td>Growing competition – new cost recovery models are needed</td>
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<td>Stimulate internal improvement, innovation and reuse</td>
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Underlying Drivers and Inhibitors of technical, economic, social and legal nature

Source: OECD (2007)
Main Tendency in OER

• From grass root movement to institution based initiatives
• Earlier few institution wide initiatives
  – Started by enthusiasts
  – Few at management level knew about initiatives
• Now mostly institution based initiatives
• Less text, more video (iTunes U) and animated materials
• Open Educational Practice – not only resources but also open teaching is offered for free (see OPAL project)
• OLnet – international research community on OER
OER in the World
OCW initiative is part of Open Educational Movement

OCW is defined as: “The original content of teaching materials for regular courses taught in university classrooms and made available, free of charge, for educational use.“

OCW web sites offer a partial publication of university course materials and content through the Internet, accessibility to resources without registration, free use of materials for non-profit educational purposes, and course studies not leading to a degree or certificate.
OCW in the World

MIT OpenCourseWare
Massachusetts Institute of Technology

JOCW
Japan OCW Consortium

KOCWC
Korea Open CourseWare Consortium

ParisTech
Libres Savoirs

iite.unesco.org
ICT in Mongolian Higher Education
Issues of Higher Education in Mongolia

- Government leadership and cooperation
- Stable funding for management
- Partnership
- Collaboration among universities
- Quality management
- Use of ICT and learning technologies

Competence of Mongolian Higher Education
Implementation Strategy: Independent

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University 1

University 2

University 3

University 4

University 5

Inter university Network

Internet
Implementation Strategy: Collaboration

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University 1

Inter university Network

University 5

University 2

University Information Sharing Framework

University Information System: UNIMS

Content Repository

Library information system

LMS: UNILMS

OER repository

Internet

University 4

University 3
Implementation Strategy: Flexible Collaboration

University 1

Inter university Network

Cloud: SaaS

University Information System
Content Repository
Library information system
LMS

OER repository

University 5

University 2

University 4

University 3

Internet

Consumption Architecture
Application Architecture
Delivery Architecture
Aggregation Architecture

"SaaS" Buyers
(Consumer / Enterprise)

Aggregators
ISV_a
ISV_b
ISV_c
IS

"SaaS" Hosters

"Classic" Hosters

OpenEducatio_3July2011_DaHwang
• Government
  • Establish the framework for university cooperation, sharing, and ICT infrastructure installation
  • Expand investment and supports from government on ICT in HE
  • Consolidate policy implementation among ministries
  • Implement efficient monitoring systems of process and performance management

• Higher Education Institutions
  • Diversify university funding sources: tuition > government > private
  • Promote inter-university cooperation in ICT use and e-Learning
  • Encourage universities to share educational resources and diversify securing resources: cloud (SaaS), OER, OCW, OSS, and practices
  • Establish national quality guideline and assessment system
ICT in Education
“Although there is no consensus as yet regarding the actual benefits of technology in ensuring quality learning, ICT are increasingly seen as an integral part of modern education systems. Policy-makers are thus attentive to the need to ensure alignment between the development of ICT in society, their integration in schools and their use in pedagogy.”
THANK YOU