United Nations
Educational, Scientific and
Cultural Organization

Division for Policies and Lifelong Learning Systems
Education Sector, UNESCO HQ

ICT in Education Strategy of Education Sector

Fengchun Miao
Chief, Unit for ICT in Education

United Nations
Educational, Scientific and
Cultural Organization

Outline

1. **UNESCO Education Sector's ICT in Education Strategy**
2. **Main ICT in Education Activities & Deliverable**
3. **Multi-Entry Approach to Developing ICT in Education Policy**

United Nations Educational, Scientific and Cultural Organization

Context of ED's ICT in Education Strategy: Alignment with post-2015 education agenda

Leverage broadband connectivity, penetrated mobile devices, and big data for post-2015 education:

- **Access**: ICTs are expected to broaden access to learning opportunities at different levels and varied educational contexts
- **Quality**: ICTs are hoped to improve the quality of knowledge acquisition, knowledge deepening, and knowledge creation, and the development of 21st century skills
- **Equity**: ICTs are believed holding potentials to equalize learning opportunities in favour of economically and/or demographically disadvantaged populations

"Ensure **equitable** **quality** education and lifelong learning **for all** by 2030"

United Nations Educational, Scientific and Cultural Organization

Key Policy Issues

- **Ensure inclusive and equal access** to ICT devices and online resources to the poor, to women and girls, and to learners in geographically isolated areas.
- **Build capacities** of policy makers, education managers, education institutions, and individual teachers in leveraging ICT.
- **Promote the free sharing and creative re-use** of open educational resources including online courseware.
- **Seize the emerging opportunities** enabled by the one-to-one (1:1), ubiquitous and mobile learning opportunities.

United Nations Educational, Scientific and Cultural Organization

ED's ICT in Education Programme: Responding to the challenges

Based on its five main functions and its global network of offices, institutes and partners, UNESCO is committed to providing Member States with resources for elaborating ICT in education policies, strategies and activities to address the challenges.

	Policy	Teachers	Mobile Learning	OER
▪ **Standard setting**				
▪ **Capacity building**				
▪ **Laboratory of ideas**				
▪ **Clearing house**				
▪ **International cooperation**				

United Nations
Educational, Scientific and
Cultural Organization

Focus areas of ICT in Education Activities

- Policy
- Monitoring and measuring (UIS)
- Teacher training
- Mobile learning
- Open educational resources (OER)
- Open and online higher education

United Nations
Educational, Scientific and
Cultural Organization

UNESCO ED's ICT in Education Strategy

- Overall Goal
- Main activities and priorities

United Nations Educational, Scientific and Cultural Organization

Overall Goal and Objectives

- Strengthen the supply of qualified **teachers** through ICT-supported training modalities, and support teachers to make effective and innovative use of technology and digital resources for learning, teaching, and administrate.
- Promote **girls' and women's access to and competency of** using ICT, and particularly broadband, to narrow the digital gender divide and contribute to their empowerment.
- Foster **inclusive and quality education systems** by promoting ICT-supported lifelong learning pathways for the knowledge society including through widening the access to quality digital content available in local languages, in particular OER.
- Foster the innovative **public-private-partnership** contributing to equitable access to ICT and quality lifelong learning for all.

United Nations Educational, Scientific and Cultural Organization

Main Activities

1. Guiding and supporting ICT in education **policies**
2. Empowering teachers through technology
3. Promoting the development and adoption of open educational resources (OER)
4. Building technology enhanced **lifelong learning systems** (including TVET, higher education and adult learning)

United Nations Educational, Scientific and Cultural Organization

1. Guiding and supporting ICT in education policies

- conducting research on leveraging ICT to achieve equitable quality education and life-long learning for all
- building capacities of Ministry officials,
- facilitating policy learning and exchanges between countries,
- developing and disseminating tools and resource including: a revised version of *the policy toolkit* and *an ICT in education policy platform*.
- EMIS with specific focuses on EMIS on emergencies and big data

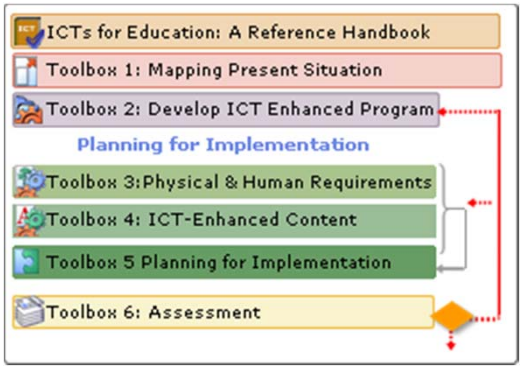
United Nations Educational, Scientific and Cultural Organization

ICT in Education Policy: Main Activities

- **High-level policy dialogues**
  - World Conference on ICT and Post-2015 Education→ 23-25 May 2015
  - Ministerial Forums on ICT in Education : Asia-Pacific, Africa, Eastern and Central Europe
- **ICT policy review**:
- **Capacity building on the development of ICT policies**: UNESCO ICT in Education Toolkit, workshops for more 40 countries
- **Global ICT in Education Prize**

United Nations Educational, Scientific and Cultural Organization

UNESCO ICT in Education Toolkit and Capacity Building Workshops on Policy Making



- UNESCO ICT in Education Toolkit (www.ictinedtoolkit.org): An online toolkit to guide policymakers to develop sector-wide national ICT in education policy and a set of master plans, and coordinate among line departments or sectors – facilitated by workshops → **A central ICT in education platform**
- 22 national workshops and 4 sub-regional workshops; directly trained 800+ policymakers of more than 50 countries.
- Follow-up technical assistance to help member states develop National ICT in Education Master Plans

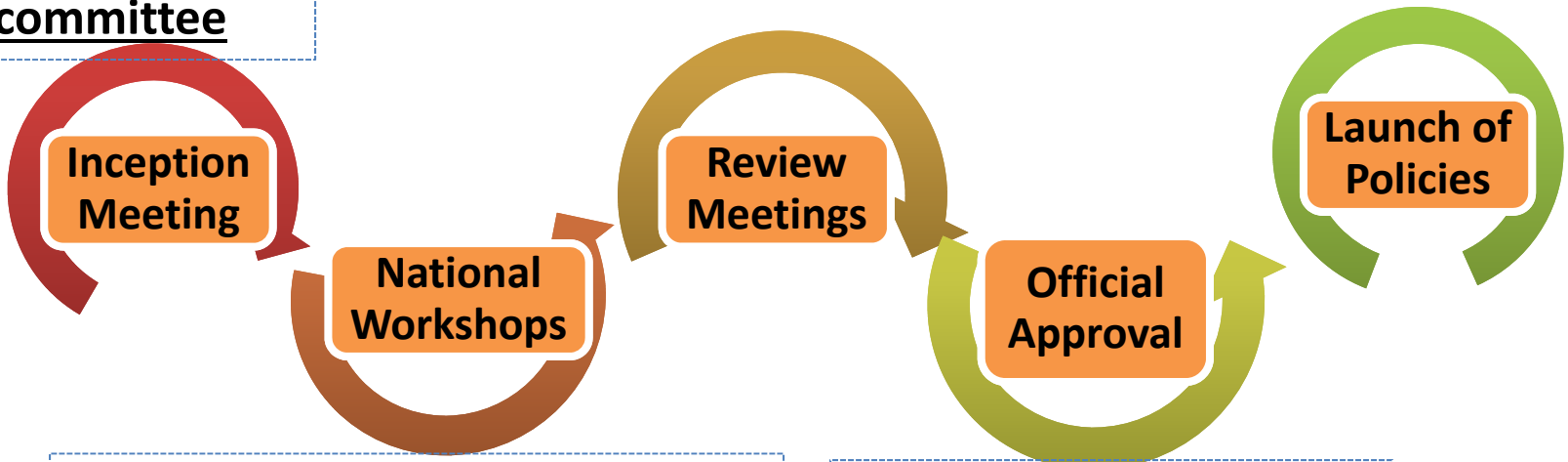
United Nations Educational, Scientific and Cultural Organization

Providing assist throughout the ICT in Education Policy Development Cycle

- Contextualizing ICT in Ed policies
- National team or committee

- Facilitate consultation with multi-stakeholders

- Policy advocated
- Aligned with other policies & initiatives



- Knowledge transfer & capacity building – Policy Framework & Policy examples
- Draft of ICT in Education policy and master plans

- Policy endorsed
- Master plans and funds approved for implementation

United Nations Educational, Scientific and Cultural Organization

Main targets that make a effective ICT in education policies

To what extent your policy targets the expected educational result?

1. **Delivering equal life-long learning opportunities for all through ICTs**
2. **Defining ICT-related skills, competencies and values (E-Skills and E-ethics) in learning outcomes and assessing them**
3. **Creating inclusive usable e-learning environments based in schools while spanning schools, families and communities.**
4. **Preparing ICT-qualified teachers and supporting their CPD**
5. **Fostering innovative ICT-pedagogy integration and e-learning**
6. **Institutionalizing EMIS**

United Nations
Educational, Scientific and
Cultural Organization

2. Empowering teachers through ICT

- Support the national and institutional adoption of ICT-CFT
- Support to use the **open and distance training** to address teachers' shortage and quality
- Build the **e-school leadership** on planning and supporting effective pedagogical use of ICT

United Nations Educational, Scientific and Cultural Organization

Empowering teachers through ICT: Main Activities

- ICT Competency Framework for Teachers (ICT-CFT)
- Assisting member states in developing ICT Competency Standard for Teachers
- Institutional capacity building for teacher education institutions

United Nations Educational, Scientific and Cultural Organization

UNESCO ICT Competency Framework for Teachers (ICT-CFT)

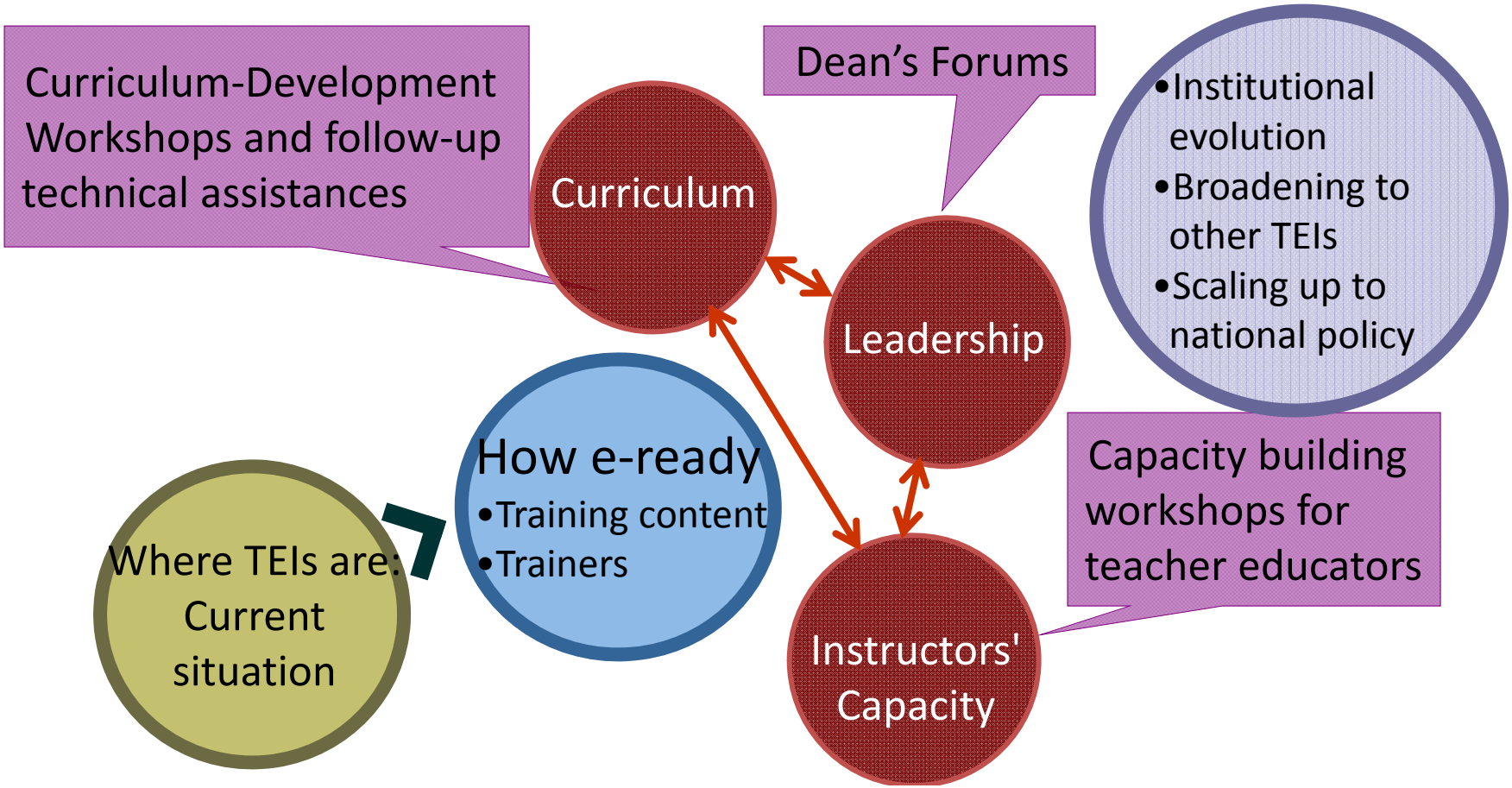
To help Member States develop national ICT Competency Standard for Teachers and provide guidelines for planning teacher education programmes.

Components \ Approach	TECHNOLOGY LITERACY	KNOWLEDGE DEEPENING	KNOWLEDGE CREATION
POLICY AND VISION	POLICY AWARENESS	POLICY UNDERSTANDING	POLICY INNOVATIONI
CURRICULUM AND ASSESSMENT	BASIC KNOWLEDGE	KNOWLEDGE APPLICATION	21ST CENTURY SKILLS
PEDAGOGY	TECHNOLOGY INTEGRATION	COMPLEX PROBLEM SOLVING	SLEF MANAGEMENT
ICT	BASIC TOOLS	COMPLEX TOOLS	PERVASIVE TOOLS
ORGANIZATION & ADMINISTRATION	STANDARD CLASSROOMS	COLLABORATIVE GROUPS	LEARNING ORGANIZATIONS
TEACHER PROFESSIONAL DEVELOPMENT	DIGITAL LITERACY	MANAGER AND COACH	TEACHER AS MODEL LEARNER

United Nations Educational, Scientific and Cultural Organization

Building the institutional capacity of the teacher institutions on ICT in education

UNESCO has been building the institutional capacity of the teacher education institutions (TEIs) in **designing and providing the training on ICT-pedagogy integration for pre-service teachers**.



United Nations Educational, Scientific and Cultural Organization

3. Promoting the development and adoption of Open educational resources (OER)

- **Paris OER Declaration 2012** released during the **World Congress on OER** in June 2012
- Projects following on OER Declaration:
  - **Policy Development**: supporting the development of sector-wide OER policies: Bahrain, Indonesia, Kenya, Oman, and **OECS Countries - COL**
  - **Review on OER policies & initiatives - *OER: Policies, Costs, and Transformation***
- Increasing attention to facilitating the exchange of pedagogies and instruction methodologies in using OER

United Nations Educational, Scientific and Cultural Organization

OER: Main Activities

- **OER Policy Development**: supporting the development of sector-wide OER policies: Bahrain, Indonesia, Kenya, Oman, and OECS States
- **Multi-channel OER Policy Development: Open Textbook, OER (including local MOOCs) for teachers and teacher-generated OER, OER enhanced deeper learning, local-language-based OER webportal**
- **Analysis of benefits of adopting OER policies**
  OER: Policies, Costs, and Transformation
  → **Methodology for OER Policy Analysis**

- **Indicators to monitor OER adoption**
  → **A draft of a questionnaire**

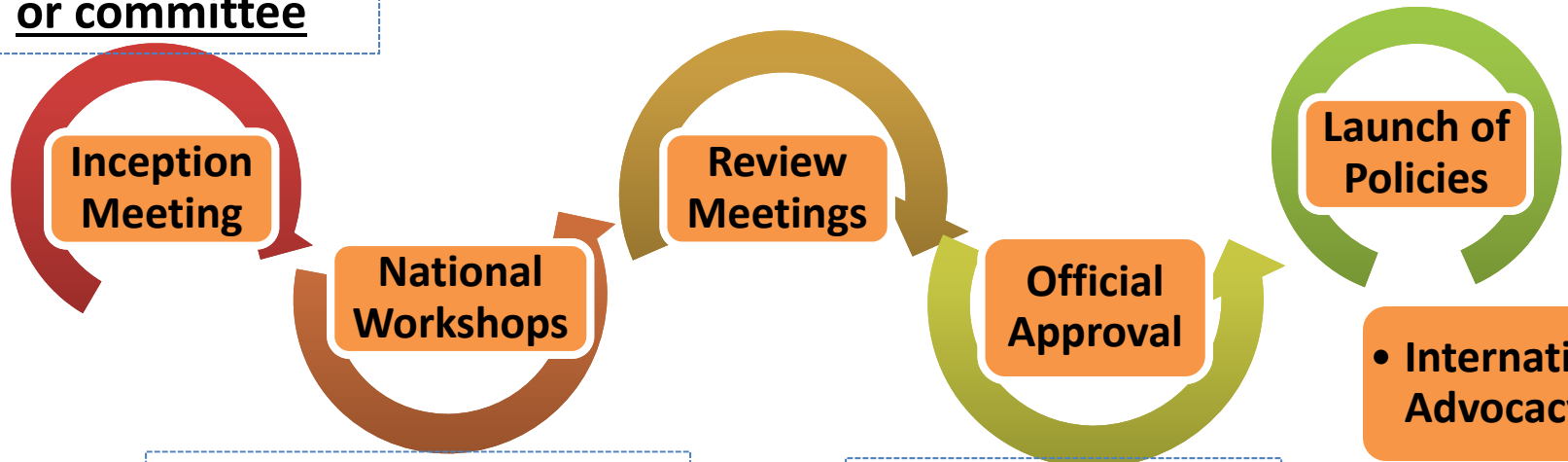
United Nations Educational, Scientific and Cultural Organization

II. Project Intervention: Technical Assistances to the OER Policy Cycle

- Contextualizing OER policies
- National team or committee

- Consultation with multi-stakeholders

- Policy advocated
- Aligned with other policies & initiatives



- Knowledge transfer & capacity building – policy brief & toolkit
- First draft of OER policy and master plans

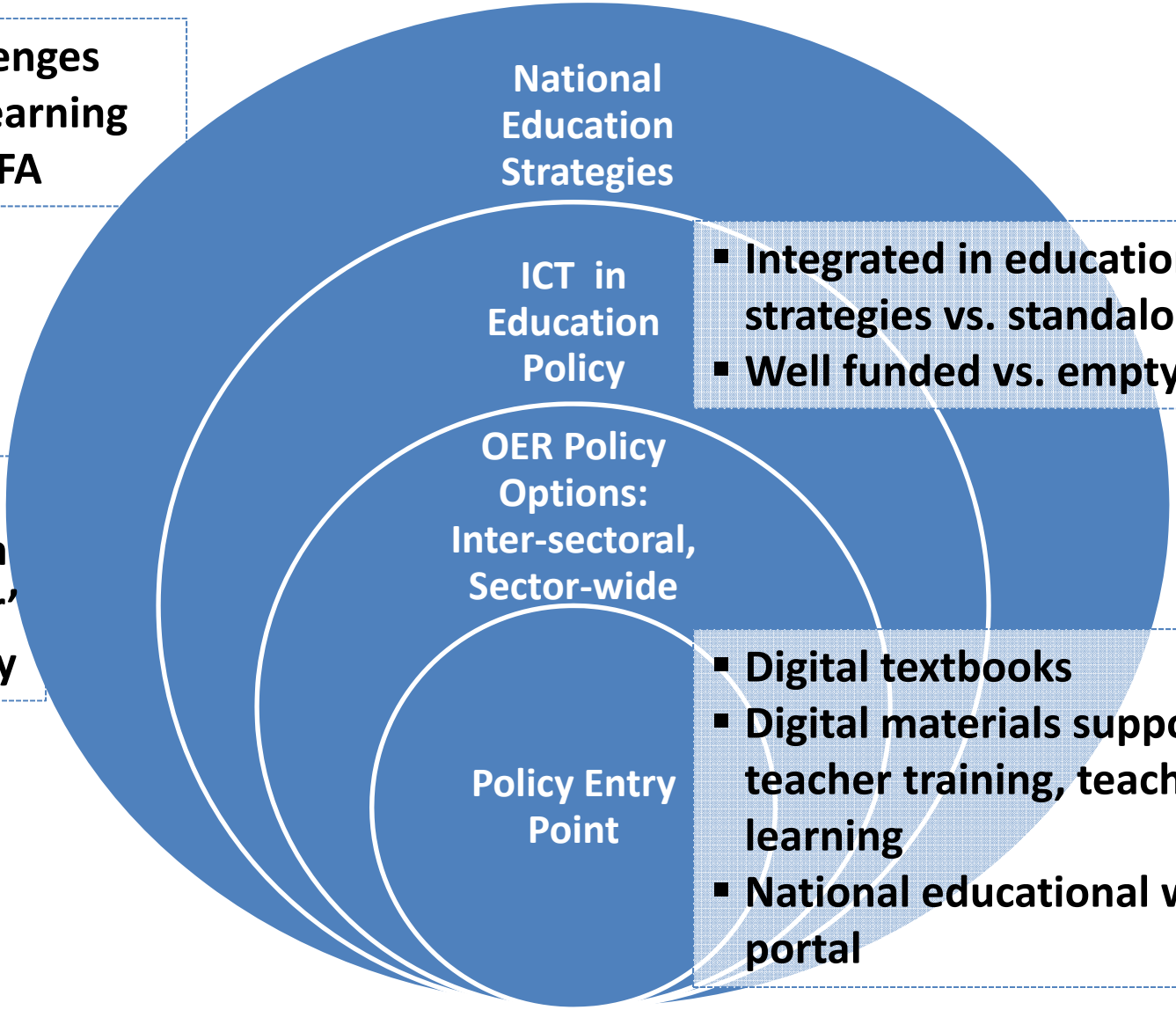
- Policy endorsed
- Master plans and funds to ensure implementation

- Policy dialogues
- Knowledge sharing on effective practices – case studies

United Nations Educational, Scientific and Cultural Organization

Contextualizing OER Policies

- EFA challenges
- Deeper learning beyond EFA



- Integrated in education strategies vs. standalone
- Well funded vs. empty promise

- Institutional coordination
- 'Legal Power' of OER policy

- Digital textbooks
- Digital materials supporting teacher training, teaching, learning
- National educational web portal

United Nations Educational, Scientific and Cultural Organization

4. Building ICT enhanced lifelong learning systems (including TVET, HE & adult learning)

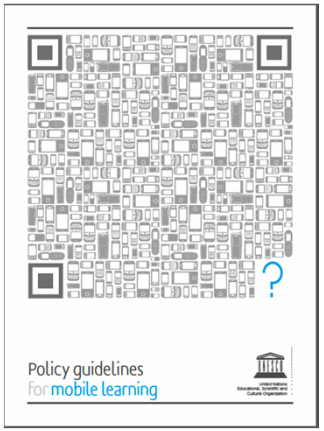
- Explore how mobile technologies and cloud solutions combined with OER can offer innovative, scalable responses to accelerate literacy progress and sustain learning outcomes for youth and adults
- Through UNEVOC network, leverage big data on skills and employment to monitor the emergence and development of new ICT related occupations and skills and the implications for qualifications and training supply.
- Document the use of ICT to provide vocational education in a cost/effective and scalable manner
- Monitor the development and impact of online learning, including MOOCs.
- Quality standards for on line learning

United Nations Educational, Scientific and Cultural Organization

Mobile Learning: Main Activities

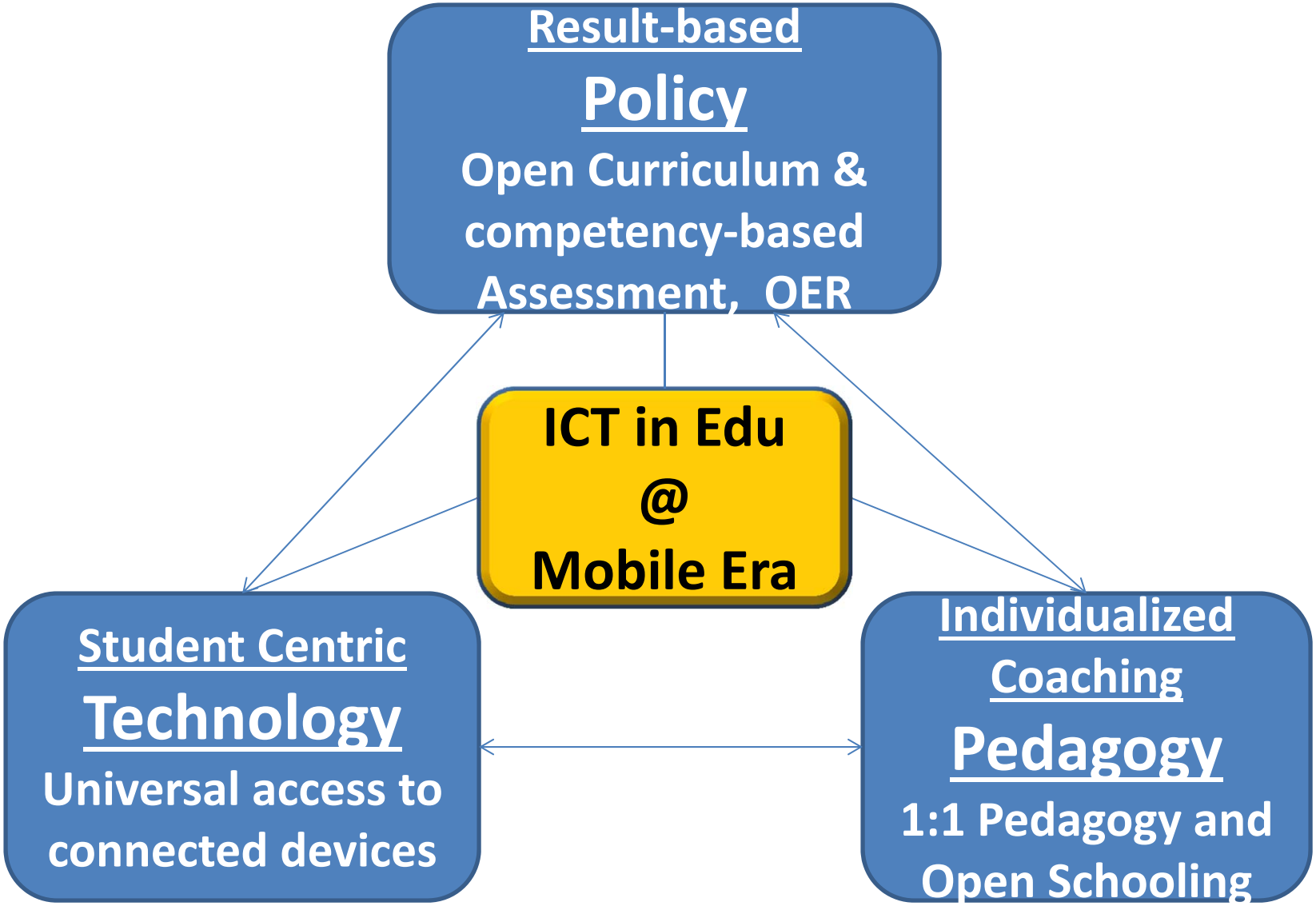
UNESCO's main focus areas/activities:

- Mobile learning **policy: UNESCO Policy Guideline for Mobile Learning**
- Mobile technologies for **teachers** development: Mexico, Nigeria, Pakistan, and Senegal
- Mobiles for **literacy:** A Publication- mobile liberacy education for women and girls; Mobiles for out-of-school children in Thailand; Mobiles for secondary school girls; mobile literacy with Microsoft
- **Reading in the Mobile Era**
- **Annual Mobile Learning Week**
  23-27 February, 2015
  Mobile for Women and Girl's



United Nations Educational, Scientific and Cultural Organization

Three Pillars of Successful ICT in Education Initiatives at Mobile Era

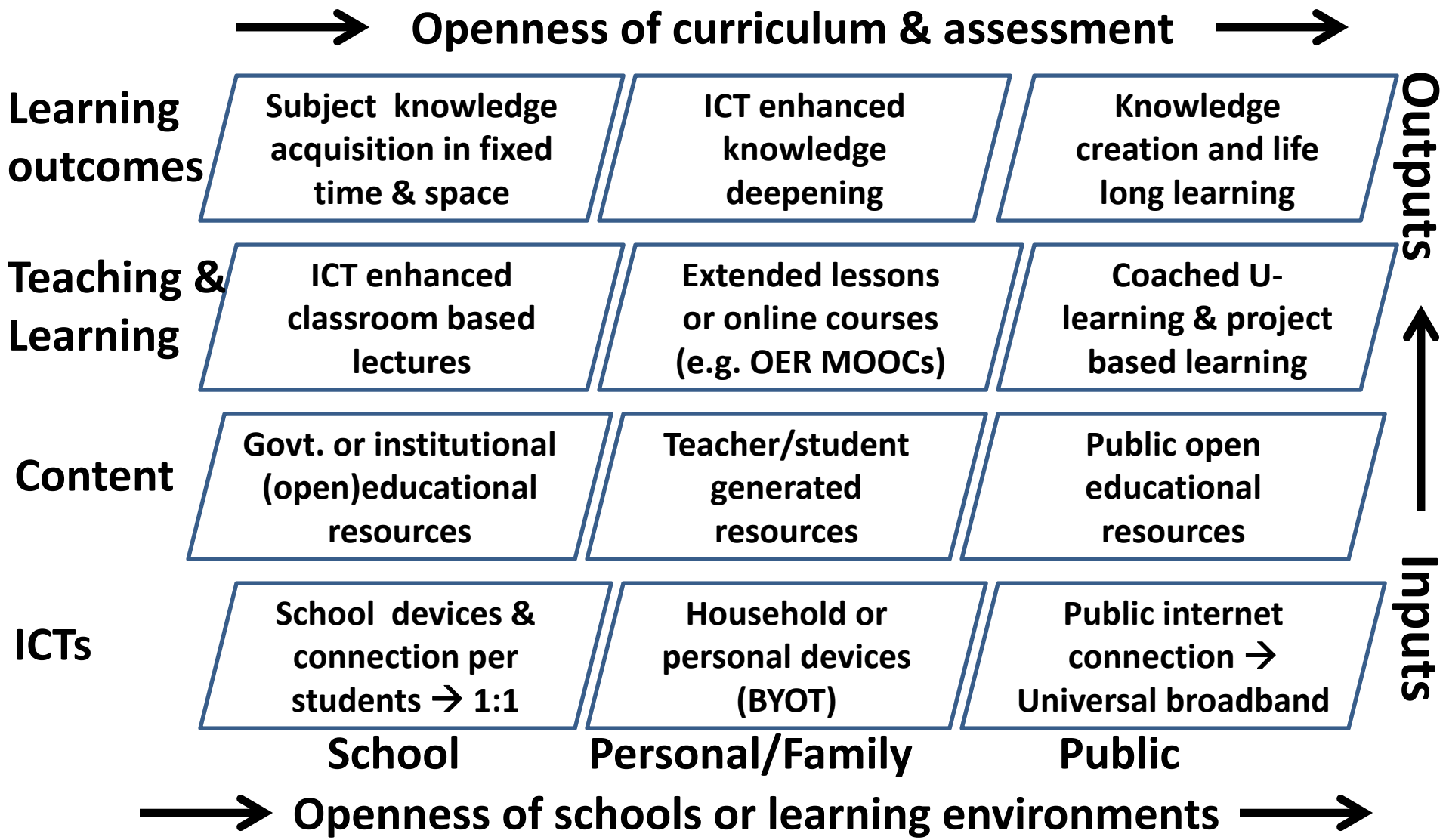


A Multi-Entry Approach (or **Random Access** vs. sequential access) to ICT in Education Targets

United Nations Educational, Scientific and Cultural Organization

Fengchun Miao (f.miao@unesco.org)

CC BY



United Nations
Educational, Scientific and
Cultural Organization

Thank you…

f.miao@unesco.org

http://twitter.com/#!/UNESCOICTs

http://www.facebook.com/UNESCOICTinEducation

http://www.unesco.org/new/en/unesco/themes/icts