UNESCO ICT in Education Programme

Optimising the Use of ICT for Education
Education is at a crossroads...

Tertiary education and life-long learning

Emerging science and innovation (ICT literacy and 21st century skills)

Traditional knowledge and skills

Education for All (EFA)
Looking backwards: The digital divide

- **ICTs natives**: Students in the most favoured countries
- **ICTs immigrants**: Educators and teachers in developing countries
- **ICT-alienated groups**: Under-served children who are alienated from ICTs, online knowledge and online communities
"There has been much reference to the digital divide, which is a reality. But a still more disturbing factor is that the knowledge divide between the most favoured and the developing countries, particularly the least developed countries, is liable to widen..."

- Koïchiro Matsuura, DG of UNESCO
Looking forwards:
A vision of ICT in education

- ICT for **social equity**: ICT-enhanced EFA

- ICT-related **human resource** development in the context of the knowledge economy
  - ICT literates → ICT empowered critical thinkers (knowledge deepening) → ICT enhanced knowledge creators

- ICT **professionals and innovators** - ownership of intellectual property of ICT

- Legal and responsible **digital citizens**
Looking deep inside: Do ICT key players REALLY care for the under-served groups?

A picture taken from inside a five-star hotel
Overall goal of
UNESCO ICT in Education Programme

Assist Member States in harnessing the potential of ICT towards achieving quality education for all
Essential focus areas for ICT in education programming

- Education Policy
- Research and Knowledge-Sharing
- Non-formal Education
- Teaching and Learning
- Monitoring and Measuring Change
- Teacher Education

Harnessing the potential of ICT towards achieving quality education for all
ICT’s Potentials for Education: UNESCO’s Recognition

As a delivery medium for EFA
As a pedagogy-enabling tool
As a edu. management tool
As a subject for ICT literacy

Within overall education system for the education priorities
ICT in education programming is like to peel an onion, one layer after another while under systematic planning, and sometimes with tears...

- Infrastructure improvement; hardware, software, and resources procurement & refinishing
- National policy & master plans, ICT standards, management mechanism, and monitoring indicators
- Partnerships and resources mobilization: public & private; upfront and sustainable; formal & non-formal
- Capacity building: planners & administrators, researching or training institutions, teacher educators & teachers,

Education practices: classrooms, families, communities; fix/flexible time & space

High-quality life & learning for students
ICT in Education Projects

- ICT in Education Policy Project (Toolkit-JFIT, World Bank Institute)
- ICT-in-Education Indicators (UIS)
- ICT in Teacher Training (11 countries)
- Next Generation of Teachers Project (Microsoft, Cisco System)
- UNESCO SchoolNet (8 ASEAN countries)
- ICT in Non-Formal Education (APEAL)
- ClearingHouse project (JFIT → Regular budget)
- Innovative Practices Project (long-term partners?)
- Capacity Building Project (modules) (JFIT → ADB)
- ICT for Literacy Education (RDF → JFIT)
- ICT for Higher Education (JFIT → ?)
- ICT Course for Education Leaders (World Bank)
What and how UNESCO can contribute

- As a standard setter
- Through capacity-building
- As a clearing house
- Through international cooperation
I. Standard Setting: ICT Competency Standards for Teachers (ICT-CST)

Among others, ICT-CST aims to:

- Provide a basic set of qualifications that allows teachers to integrate ICT into their teaching and learning, to advance student learning, and to improve other professional duties.

- Extend teachers’ professional development so as to advance their skills in innovative pedagogy, collaboration, leadership and school development using ICT.
Technology Literacy: Increase the technological uptake of students, citizens, and the workforce by incorporating technology skills into the curriculum.
Knowledge Deepening: Increase the ability of students, citizens, and the workforce to use knowledge to add value to society and the economy by applying it to solve complex, real-world problems.
Three approaches toward ICT-CST

Knowledge Creation: Increase the ability of students, citizens, and the workforce to innovate, produce new knowledge, and benefit from this new knowledge.
Six components of ICT-CST

POLICY AND VISION
CURRICULUM AND ASSESSMENT
PEDAGOGY
ICT
ORGANIZATION & ADMINISTRATION
TEACHER PROFESSIONAL DEVELOPMENT

TECHNOLOGY LITERACY
KNOWLEDGE DEEPENING
KNOWLEDGE CREATION

The components of the education system where the three education improvement strategies can make a difference.
A framework that allows teacher professional developers and trainers to connect their course offerings to these broader educational improvement and economic development policy goals.
To help teacher education institutions (TEIs) design and provide relevant ICT curricula for their trainee teachers and thereby ensure that the next generation of teachers are able to use ICT judiciously and in an innovative fashion in classrooms to enhance teaching and learning.
In each of these countries, three TEIs are identified to participate in the project activities.
Objectives of the Next-Gen Project

Systematically build TEIs’ capacity in pre-service teacher training on ICT integration

- Management/leadership
  → (Dean’s Forum)

- ICT-related training content
  → (ICT-related Curriculum Development Workshop)

- Instructors’ ICT capability
  → (Capacity Building Workshops for instructors)

Next generation of teachers competent in ICT use in education
Modality of the Next-Gen Project

Curriculum Development Workshops

Dean's Forums

Where we are going
- International standards
- Local social needs
- National standards
- Individual needs of students

Where we are:
Current situation

Curriculum Development Workshops

Leadership

Instructors' Capacity

E-readiness

Capacity-Building Workshops for Instructors
Map out the professional development of ICT-integration

Specializing in the use of ICT

Understanding how and when to use ICT

Learning how to use ICT in subject teaching

Becoming aware of ICT

Transforming

Creating innovative & OFL environments

Facilitate learning using multi-modal instruction

Enhancing traditional teaching

Applying productivity tools

Infusing

Emerging

(a) Stages of ICT usages

(b) Pedagogical Usages of ICT

Applying

Learning how to use ICT

Becoming aware of ICT

(a) Stages of ICT usages

(b) Pedagogical Usages of ICT
Pedagogy (ability)

Knowledge, ideas, beliefs & values

Pedagogical Skills, esp. Instructional Design

Adaptation to content

Fitting to learners

Adaptation to local context

ICT-Pedagogy Integration

Embedded Pedagogy: Contextual Knowledge; Skills; -- Hands-on practice

ICE-CREAM CONE Model: highlighting the pedagogical principles of in ICT integration

Module A

Module B

Module C

Module D

Module E

Module E

ICT Usage

Emerging

Applying

Infusing

Transformation

T-Pedagogy Integration
Facilitate the institutional ICT-related Curriculum Reform

Content structure-syllabi → ICT-related courses → Pedagogy → Curriculum management
Kick-off workshop → On-going technical assistance → National adoption → Wrap-up workshop

A framework for Module A *Integrating ICT Productivity Tools*

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<tr>
<th>Objectives</th>
<th>Content</th>
<th>Training Methodology</th>
<th>Training Material Available</th>
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<td>After the training of module A, trainees should be able to: • Demonstrate expertise in basic computer operation and utilizing computer peripherals • Demonstrate expertise in working with productivity tools, such as word processing; working with a spreadsheet, a database, presentation and e-mail • Apply productivity tools in learning context in authentic environment: using spreadsheet to create class lists for assessment or using presentation software for developing instructional lecture • Differentiate functional differences of various digital and non-digital technologies to support teaching and learning • Apply active, intentional and collaborative learning principles while designing learning and teaching materials • Develop positive attitudes of utilizing ICT for learning • Demonstrate appropriate understanding about the related social and ethical issues, and using ICT in a legal and responsible way</td>
<td>A1 Basic Concepts of ICT A2 Using the Computer and Managing Files A3 Word Processing A4 Working with a Spreadsheet A5 Working with a Database A6 Composing Presentations with text and graphics A7 Information &amp; Communication A8 Social and Ethical Issues A9 Teachers’ Professional Development and/with ICT</td>
<td>• Explanations of the basic ICT concepts with diagrams, video and real objects, and field trips where necessary. • Flexible combination of vicarious learning (in which, learners observe and follow trainers’ operation) and enactive learning (in which, learners engaged into active thinking and operation based on authentic problems/ tasks); self-study/ operation &amp; cooperative learning or team work. • Project/problem-based ICT application • Hands-on lesson plan or courseware design</td>
<td>• Microsoft: <em>Integrating ICT Skills into Teaching and Learning</em> (for grades 5-8); Using MS Office XP for Learning Projects (for grades 6-12) • Integrating ICT productivity tools in learning practices developed by Dr. Majumdar</td>
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Long-term supports for TEIs’ development

- Three Deans Forums
- More than 20 national or institutional capacity building workshops for instructors on ICT skills, Networking technology, ICT-pedagogy integration, tele-collaboration
- Two regional Peer Coaching workshops
- Two ICT-related curriculum-development workshops are in planning
UNESCO launched the project, 30 TEIs from ten countries were identified.

May 2006
- Situational assessment and needs analysis
- Cisco joined the project

2006-2007
- Two Dean’s Forums
- Cisco’s workshops
- The First Peer-coaching Workshop in Yunnan, China
- ICT-pedagogy workshop in Sri Lanka

2007
- Case study of innovative practices
- Adoption by the governments and more TEIs ...

2007-2008
- Perth Forum
- Innovative Teachers Conference in Vietnam
- Second Peer coaching workshop in Brunei
- Curriculum Development Workshops

2009-
III. Clearing House: ICT in Education

- Website
- e-Newsletters
- Print publications
- CD-ROMs
- Online Community
ICT in Education Website

- 27,000 unique visitors per month on the overall website
- Average time spent by visitors increased by over 70% over the past year
- Number of pages viewed increased by 50%

No. 1 Google page rank
Over **1200** articles have been published since 2002

- The e-Newsletters are sent out every **2-3 weeks** to more than **4500 subscribers worldwide**

- Multiple articles have been redistributed in **external newsletters or magazines**
Over 30 publications (books and CD-Roms have been produced

From June 2007 to May 2008, 1292 publications have been sent out to 403 distinctive recipients

ICT in Education Online Community
www.unescobkk.org/forum/education/ict
IV. International cooperation: Using ICT to reach out to underserved groups

  → UN ESCAP Telecentre Online Database: http://www.unescap.org/icstd/applications/cec

- Low-cost devices initiative: World Bank's/InfoDev, UNESCO, and local NGOs

- ICT for Literacy Education →
Example: ICT for Literacy Education Project

Overall goal: Using ICT to deliver literacy education to female illiterate adults in five E-9 countries in Asia

Mobile Based Post-Literacy Programme: Using mobile phones to retain women’ literacy skills in Pakistan - UNESCO Islamabad

![Image of a person with a child on their back, wearing a blue headscarf]

**Graph: Literacy Rates in Asian Countries (2000-2004)**

- Bangladesh: 41.1%
- Nepal: 48.6%
- Pakistan: 48.7%
- India: 61.0%
- Cambodia: 73.6%
- Iran: 77.0%
- Malaysia: 88.7%
- Sri Lanka: 90.4%
- China: 90.9%
- Thailand: 92.6%
IV. International cooperation: Proposed areas for the future cooperation

- ICT-related **Curriculum Development** Initiative for teacher education institutions + Deans’ Forum
- ICT for **Higher Education** + Open and distance learning
- ICT for **Literacy Education** + ICT for non-formal education + low-cost computing devices
- In-depth ICT in Education **Policy Making**: Translation of the Toolkits + policy making workshops + ICT courses for leaders → National Education e-Strategy Support
- Long-term ICT in Education Innovation **Awards** (Innovative Schools) + regional conferences + training workshops + case studies
What and how YOU can contribute?
Thank you...

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