Trends in ICT in Education Policy: Regional Prospects

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The Asia-Pacific Ministerial Forum on ICT in Education 2013
Shenzhen Wu Zhou Guesthouse, Shenzhen, PR China / 26-28 November 2013
UNESCO IITE and Education Policy

IITE’s mission is to serve as a center of excellence and provider of technical support and expertise in the area of ICT usage in education.

Following the intention to assist the Organization, IITE, within its status and functions, supports UNESCO by:

- bridging the digital divide in education;
- facilitating policy dialogue
- building inclusive knowledge societies by reinforcement of national capacities in promoting e-environments for increasing access to education and lifelong learning,
- initiating development of national strategies on application of ICTs in education.
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Key Questions and Policy Issues for the Use of ICT

Why introduce ICT?

Is ICT meant to improve learning outcomes?

Is ICT intended to improve cost-effectiveness?

Is ICT expected to expand access to education?

Into what system is ICT being introduced?

Will ICT be used to carry the existing curriculum or whether its introduction will be accompanied by curriculum reform that takes advantage of the benefits of ICT?

How wider use of new technologies might impact pedagogical approaches?

Does teacher professional training ensure ICT skills adequate to the new requirements imposed by the use of ICT?
Objectives of IITE International Conferences:

- To overview governmental policies on ICT integration in education at local and international levels;
- To discuss and analyze best practices of the implementation of strategies, programmes and methods of ICT use in education;
- To exchange opinions on the impact of ICT on education, including ICT-enhanced teaching and learning, as well as teacher professional development;
- To study major trends in open, distance and online learning on a regional scale and worldwide;
- To discover the opportunities and implications provided by Open Educational Resources (OER);
- To identify the potential and examine the existing practices in ICT application in inclusive education and gender equality issues.
Clear vision and policy statement: ministries of education should set clear vision and policy statement concerning the role of ICT in ECCE.

Instruments to initiate and support integration of ICT: ICT standards for teachers, curricular supplements, assessment framework, learning resources, collections of good practices and other supportive frameworks.

Professional development of teachers must focus on (a) developing ICT literacy of educators, and (b) building new pedagogies of ICT in favour of children’s learning and development.

Safety and gender issues: when designing and implementing an ICT strategy for early childhood and primary education, all safety concerns must be respected.
Promotion of the use of ICTs in vocational education fully corresponds to the national priorities for modernization of the educational systems in CIS countries.

In the framework of the joint project with the Intergovernmental Foundation for Educational, Scientific and Cultural Cooperation (IFESCCO) IITE initiated comparative studies on the current situation and major tendencies in ICT use in TVET in 10 countries: Kyrgyz Republic, Republic of Armenia, Republic of Azerbaijan, Republic of Belarus, Republic of Kazakhstan, Republic of Moldova, Republic of Tajikistan, Republic of Uzbekistan, Russian Federation and Ukraine.

The report deals with a wide range of questions related to ICT use in TVET, including relevant national legislation, advantages of the use of electronic educational resources, e-Learning and continuous development of teacher ICT competencies. The report includes recommendations on further promotion of ICT use in TVET.
ICT for Inclusive Education

Following the UNESCO initiative to promote a broader view of the concept of inclusive education, IITE provides support to the policy dialogue and initiates the development of national e-inclusive strategies aimed at the following:

- increasing disadvantaged and excluded groups` access to ICT infrastructure;
- promoting basic ICT literacy and vocational training programs targeted specifically at the most vulnerable segments of society;
- supporting regional, sub-regional and inter-country cooperation and good practice exchange on the extension of ICT usage to excluded groups.

In 2012, IITE together with the Institute of Professional Rehabilitation “REHACOMP” developed a training course “Information and Communication Technologies for Visually Impaired People” (in Russian).
ICT Competency and Professional Development of Teachers

The ICT Competency Framework for Teachers (UNESCO ICT-CFT) was published in English by UNESCO in 2011 to support the UNESCO Member States in developing national policy on teachers’ ICT competence and establishing relevant standards. The Framework was translated into Russian and published by UNESCO IITE in 2011.

The methodological approach proposed in “Guidelines on adaptation of the UNESCO ICT Competency Framework for Teachers” covers the most important stages of the UNESCO ICT-CFT adaptation process; suggests guidelines for developing strategies and policies for ICT use in education and for the professional development of educators; and resources needed for successful localization of ICT-CFT to local contexts.

The Curriculum of the IITE Master Program/Advanced Training Course “ICTs in Teacher Professional Development” was developed (in Russian).
Information and Media Literacy

Media and information literacy “refers to the essential competences that allow citizens to engage with media and other information providers effectively and develop critical thinking and life-long learning skills for socializing and becoming active citizens” (Pedagogies of Media and Information Literacies, UNESCO IITE, 2012).

“Media Literacy and New Humanism” published by IITE: new humanism in the information society must prioritize a new sense of respect for multiplicity and cultural diversity and must support media development in order to consolidate the new culture of peace through the development of media literacy.

IITE translated into Russian, published and disseminates the UNESCO Curriculum for Teachers “Media and Information Literacy”
Digital Pedagogy

Digital pedagogy: e-didactics and pedagogical engineering. Engineering of learning requires new understanding and reconceptualization of traditional didactics toward e-Didactics in order to effectively design and skillfully align learning objectives, content, and assessment in digital age classroom.

A monograph “Engineering in E-learning” was prepared and published by IITE. The main focus of the book is design, development, implementation, and assessment of e-learning experiences through the use of ICT in various formats at different levels of education.

A textbook “Pedagogical Aspects of Media and Information Literacies” was developed together with the Finnish Society for Media Education and published in English and in Russian.
Open Educational Resources for Higher Education and Lifelong Learning

Since 2010 IITE has been implementing a project “Open Educational Resources in non-English-speaking countries”.

Project goals: advocating the OER movement and building the capacity in production, sharing and use of OER in UNESCO Member States, in particular, in CIS countries, Baltic States and other non-English-speaking countries.

Project activities build on the examination of the needs, capacities, opportunities and challenges for OER in selected countries and include dissemination of best practices, raising awareness of open licenses and development of recommendations for a wider use of OER in educational practice.
From Open Educational Resources to Massive Open Online Courses

An important milestone in the project on OER in non-English-speaking countries has been its contribution to the organization of the World OER Congress (June 2012, Paris) through holding a session and chairing one of the ministerial meetings. As a follow-up of the Congress, the Institute translated the Paris OER Declaration and Guidelines for OER in Higher Education into the Russian language to promote OER in CIS.

IITE contributed to the UNESCO/ COL monograph “Open Educational Resources and Change in Higher Education: Reflections from Practice” (Chapter 2 “Introducing the opportunities and challenges of OER: the case of the CIS and the Baltic States”).

IITE joined the OER Advocacy Project implemented jointly with the UNESCO Secretariat in cooperation with COL, the Hewlett Foundation and several UNESCO field offices.

IITE has published a policy brief on MOOC and actively pursues promotion of its courses as MOOCs on different platforms.
IITE policy briefs cover current trends in ICTs use for education and implications for educational planning and policy making. Recent issues highlight the cutting-edge issues of ICT in education:

- “Technology-Enhanced Assessment in Education”,
- “ICTs in Global Learning/Teaching/Training”,
- “Personalized Learning: A New ICT-Enabled Education Approach”,
- “Alternative Models of Education Delivery”,
- “ICTs for Curriculum Change”,
- “ICT and General Administration in Educational Institutions”,
- “How Technology Can Change Assessment”,
- “Learning Analytics”,
- “Quality Management and Assurance in ICT-Integrated Pedagogy”,
- “ICTs in Early Childhood Care and Education”,
- “Massive Open Online Courses”
New Policy-Relevant Trends in ICT in Education

ICT for assessment

Technology-aided assessments can help in the design, delivery, and improvement of learning environments. A common model of ICT assessment involves large-scale randomized controlled trials, in which a large sample of students is randomly assigned to a treatment and control group to test the effectiveness of an educational technology.

Technology-aided assessments can be designed to collect data and selectively present different information to different students. This can allow for the empirical testing of questions about the best design choices for learning, and the results can be incorporated into the learning environment for continual improvement. In terms of reach, technology allows for new kinds of assessments, including assessments of student's learning and problem solving processes that are embedded in the learning context, and assessments of how well prepared students are for future learning.
Alternative Models of Education Delivery: five models populate various subsectors of formal education. The models are an ICT-rich primary school, a virtual supplementary school for specialist subjects (e.g., science), a college model based on OER for trade skills, the Multeversity (a 21st century reconceptualisation of the 20th century polytechnic/university of applied science) and a support/network model for research intensive elite universities.

Diversification of Learning Platforms. Whereas in the past learning platforms used to be focused on simple delivery of content, current learning platforms utilize distributed learning resources and tools as competitive advantages in which teachers and learners can compose and control their learning activities on diverse learning devices in an unrestricted physical environment.
Digital Natives: In the «digital society», a new generation is emerging. Not only they have new and specific digital abilities; they also bring new concepts, new stakes. The traditional school and traditional pedagogies can hardly cope with this new generation. Knowledge is changing; lifelong learning is now for everyone; the society is more and more structured in networks; collective intelligence is made possible by technologies and seems natural to digital natives. But there is a risk that the gap will increase between technology and pedagogy.

Digital Literacy in Education: ICTs have penetrated all areas of contemporary life. Digital literacy has become much more than the ability to handle computers, it comprises a set of basic skills which include the use and production of digital media, information processing and retrieval, participation in social networks for creation and sharing of knowledge, and a wide range of professional computing skills.
Learning Analytics can transform educational research into a data-driven science, and educational institutions into organisations that make evidence-based decisions. Institutions should train staff and researchers in learning analytics and invest in analytics infrastructures for two reasons: (1) to optimise student success, and (2) to enable their own researchers to ask questions about education in the 21st century. Institutions should share student data, analytics techniques and visualization tools.

Quality Management and Assurance in ICT-Integrated Pedagogy (QA) is the process of ensuring that systems, practices and resources are ‘fit for purpose’. Education is a holistic process and its components are interdependent, so that ICT-integrated pedagogy (or e-Learning) cannot be quality-assured in isolation. Together these factors result in a complicated range of scenarios. Maintaining current educational standards requires that most current QA outcome based criteria will carry over into e-Learning practice.
ICT and General Administration. An overview of ICT used to support educational administration covers the full range of technologies used to support learning, teaching and research and includes technologies used to support learners from initial inquiries about courses through to graduation, technologies to support teachers in the design and delivery of teaching and to support the research lifecycle from bidding through to project management and research dissemination. It highlights the importance of Learning Management Systems to support learning and teaching.

ICTs and Teacher competencies. Current work on defining teacher competencies in ICTs has produced a clear understanding of what teachers need to know. Current data on young people suggest a strong need to effectively use ICTs in their education. Still the lack of effective use of ICTs in schools remains and can be traced to a lack of professional development opportunities for teachers. The policies focused on the use of ICTs for effective professional development can accelerate worldwide progress in teacher ICT use.
Cloud Computing in Education. Educational institutions have become highly dependent on ICT to service their business requirements. Procuring and maintaining a wide range of hardware and software require substantial, ongoing investment and the skills to support them. The economies of scale and other features of cloud computing are likely to mean an increasing shift away from institutionally-hosted services. These services are provided using Internet technologies to staff and students and accessed from web browsers.

Mobile Learning. Among others, the following actions need to be taken: investing in development of mobile pedagogies; developing workable mobile learning policies; training teachers, raising awareness, and building confidence for the redesign of existing curricula and forms of assessment; rewarding teachers for becoming life-long learners themselves through their use of mobile technologies; persuading publishers of learning materials to develop business models enabling more flexible and lower-cost or free access, remixing and reuse on mobile devices.
New Policy-Relevant Trends in ICT in Education

Cost-Efficient Modelling of Open Learning. Open learning provides flexible remote access and enables people to study ‘any place, any time’. ICTs make this possible by providing online access to the digital resources and student-tutor communications needed for study. The growth of open learning is already outstripping the growth of campus learning, but economic viability is difficult to achieve for the full curriculum. Initial costs are high and must be managed over the long term to be sure that ICT yields its main benefits: access to education for large student numbers, and high quality support for independent learning.

Personalized Learning. More and more people believe that learning will be a key ingredient of a successful post-industrial society. Educational institutions are already in flux, and the expectations and practices of teachers, students and parents are also moving fast. The latest advances in IT and digital content allow all students to benefit from the personalized learning approach. At the level of schools, universities and adult training centers, personalized learning allows tailoring of education to ensure that every learner achieves the highest result possible.
Thank you for your attention

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