



United Nations  
Educational, Scientific and  
Cultural Organization

Organisation  
des Nations Unies  
pour l'éducation,  
la science et la culture

Organización  
de las Naciones Unidas  
para la Educación,  
la Ciencia y la Cultura

Организация  
Объединенных Наций по  
вопросам образования,  
науки и культуры

منظمة الأمم المتحدة  
للتربية والعلم والثقافة

聯合國教育

# ICT-Enabled Knowledge Acquisition

## ICT-Enabled Knowledge Acquisition

The Communication and Information Sector's work on ICT-enhanced knowledge acquisition is anchored within the "knowledge mandate" and Constitution of UNESCO. It seeks to develop an integrated work stream, inter-relating with other emphases and competencies within UNESCO. This capacity-building work focuses on four tracks: (1) content development, (2) communication infrastructure, (3) capacity-building and (4) innovative applications.

The knowledge transfer process in the digital age is composed of various basic ingredients. "Knowledge transfer" refers to learning in the broadest sense, including lifelong learning, professional training including – in the case of CI Sector - training of journalists, librarians, decision-makers, community workers, knowledge workers and any audience for "learning" or, simply, for knowledge acquisition.

On the path towards building knowledge societies, we need to understand both the legacy and potential of knowledge as applied to UNESCO's objectives. The presumption that knowledge is a key driver of social and economic development - which includes notions of cultural identity, empowerment, inclusion and human security and dignity - is a core foundation of UNESCO's mandate.

Today, ICTs afford an exciting opportunity to begin questioning some of the basic assumptions and choices that were predicated on them and to re-open discussions around the nature of learning, the content of learning and the role of facilitators and places for learning. Learning modes are set to become a diversified mixture of self-instruction, group work and tutoring. This process will be complicated and difficult, particularly as there are many different audiences of learners to be targeted - students, skilled workers, general public, young children, out-of-school, primary age, secondary, tertiary, etc.

The solution lies essentially in the organizational, pedagogical and cultural realms, but ICTs can have a key enhancing role if applied correctly. The new concepts

of on-line connectivity, virtual environments (choice of delivery media) and group-ware methodologies can contribute to building a tradition of life-long learning. The trend is now towards multimedia systems combining text, data, sound, all types of image (single frame, video, 3-D) and even touch and other senses (virtual reality). Although multimedia have mainly been successfully applied to entertainment and to very specialized training (e.g. flight simulators), their potential for contribution to "mainstream" education is enormous provided that new paradigms evolve for conceiving, developing and financing such applications.



The shared presence of "virtual communities" holds particular promise for educational applications - but unexplored issues need to be addressed by educators, information scientists, psychologists and even philosophers, as well as pursuing technical questions as to how the

associated new ICTs can be applied with the limitations of developing country situations.

### A Holistic Approach to ICT-Enabled Knowledge Acquisition

Knowledge acquisition is a life-long process which can be significantly enhanced through the appropriate use of emerging ICTs. On this basis, CI activities focus on capacity building and professional development, digital content creation, digital content standards and repositories, policies and regulatory frameworks, connectivity and networking infrastructures, and underlying business models.

In order to tackle this range of issues, a spectrum of strategic partnerships has been

# ICT-Enabled Knowledge Acquisition

forged with Academia, major IT private sector corporations and NGOs. The focus is on projects with global impact rather than small-scale, limited-impact activities, as illustrated by the following example.

## Competency Standards for Teachers

To live, learn, and work successfully in an increasingly complex, information-rich and knowledge-based society, students and teachers must utilize technology effectively. Within a sound educational setting, technology can enable students to become:

- (1) Capable information technology users
- (2) Information seekers, analysers, and evaluators,
- (3) Problem solvers and decision makers
- (4) Creative and effective users of productivity tools
- (5) Communicators, collaborators, publishers, and producers
- (6) Informed, responsible, and contributing citizens

Today's classroom teachers need to be prepared to provide technology-supported learning opportunities for their students. Being prepared to use technology and knowing how that technology can support student learning have become integral skills in every teacher's professional repertoire.

The ICT-CST (Competency Standards for Teachers) project provides a complete framework for ICT Competency Standards for teachers by

- (a) addressing the underlying "Policy Framework"
- (b) examining the components of educational reform and developing a matrix of skill sets for teachers which correspond to various policy approaches and education reform components.

- (c) providing a detailed description of the specific skills to be acquired by teachers within each skill set/module.

## A Second Phase

The second phase of the ICT-CST project involves the establishment of a UNESCO mechanism to endorse training programs for compliance with the UNESCO standards. The complete guidelines for submission,

evaluation and endorsement will be published on the UNESCO website dedicated to this project: <http://www.unesco.org/en/competency-standards-teachers>.

The UNESCO ICT-CST project receives support from numerous partners, both in academia and in the IT private sector, most notably, from Microsoft, Intel, Cisco, the International Society for Technology in Education (ISTE) and Virginia Polytechnic Institute and State University (Virginia Tech).

### To find out more

Contact: Mr Tarek Shawki:

[t.shawki@unesco.org](mailto:t.shawki@unesco.org)

Related Documents:

(1) "ICT-Enabled Learning - Pocket Guide, (2) "Building Knowledge Societies", February 2006.

In Focus:

[http://portal.unesco.org/ci/en/ev.php-URL\\_ID=25740&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/ci/en/ev.php-URL_ID=25740&URL_DO=DO_TOPIC&URL_SECTION=201.html)

[UNESCO and partners help teachers bring technology to the classroom](#)

[UNESCO to launch ICT Competency Standards for Teachers at Moving Young Minds Conference](#)