

Education for all in knowledge societies

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The role of education has been changing profoundly over the past few decades. As we have moved towards knowledge societies, educational methods and institutions have been evolving to provide more multi-faceted formal education to equip students for change and ever wider opportunities for lifelong learning. Electronic information networks and information and communication technology (ICT) have been both enabling tools and results of this evolution.

Informatics and telecommunications are now enhancing access to and quality of education at all levels. Multimedia tools can provide stimulating interactive applications for learning at home, in school and in the workplace, while electronic networks and virtual campuses are being widely used for distance education and collaborative study. At the same time, information science and ICT are being strengthened as a subject focus of education at all levels, from teaching basic skills to advanced training of information and ICT professionals.

Although the most evident benefits of ICT have been, until now, in higher and specialised education, the information revolution is also transforming pre-university education. The priorities are, however, different and include the use of ICT for the planning and management of education systems, the training of teachers and of citizens in the use of ICT, and the development of ICT-enhanced non-formal learning environments. More 'traditional' telecommunications technologies like radio, and in some cases TV are still often found to be particularly appropriate in specific applications.

In all of these uses, ICT can serve not only as an aid, but also as a powerful stimulus for the improvement of education, through the promotion of communication among educators, decision makers, students and parents at the international, national and local levels.

Several key priorities should be considered by policy-makers and educators at different levels in harnessing ICT for education, particularly in the context of opportunities for developing countries:

Infrastructure and institutional framework

Educational institutions and systems at all levels will clearly need to improve their information, informatics and telecommunications infrastructures. Access to the internet is increasingly important in schools and education systems. New public policies, responsibilities and investment will thus be needed, but 'traditional' educational institutions will also have to co-exist, and increasingly co-operate, with new institutions, providing educational services and products based almost entirely on ICT – some of which operate across borders, posing challenges to national regulatory frameworks.

Reaching the unreached

Particularly in developing countries, outreach from formal education systems, as well as non-formal education provided by communities and civil society organisations, will be critical in reaching rural, poor and otherwise disadvantaged communities, as well as social groups with special needs such as women, youth and the handicapped.

A renewed focus is needed on combating illiteracy and promoting information literacy which enables citizens to locate, evaluate, organise and effectively use information. Distance learning techniques and community learning centres, making appropriate use of ICT, are critical elements in these efforts.

Educational personnel and resources

Teachers have to be massively trained in use of information resources and ICT since they will be expected to pilot and ensure effective use of innovative ICT-enhanced curricula and learning methods. Equally important is the training of ICT professionals to provide technological support for educational innovation, as well as instructional designers and librarians to handle educational content, and journalists to promote educational reform and access.

Wide international access to digital educational content can be a major support for the diffusion, and institutional and cultural adaptation, of experience with ICT in education. Educational institutions around the world are thus encouraged to join the rapidly growing movement freely to share content on the internet as 'open educational resources'.

Quality and standards

In knowledge societies, quality of education is especially important to ensure equality of opportunity. This means that educational reform and improvement of curricula must be accompanied by major efforts to implement standards for educational services and achievement, and international codes of practice ensuring transferability and recognition of qualifications. As one, increasingly important, part of this broad effort, educational technology standards are needed to ensure re-usability of content and tools, interoperability of services and multilingual access. Educational systems and other public service bodies should work closely with the private sector to develop frameworks and technical standards which are flexible, open, freely available, and meet the needs of both industrialised and developing countries.

The educational opportunities provided by the information revolution and by ICT are particularly important for the developing countries working to provide basic skills for nearly 900 million adult illiterates and learning opportunities for the estimated 110 million children excluded from primary school, and to improve access to overstretched secondary and higher education systems. We are pleased that these opportunities are at the core of the World Summit in its major focus on education in the Information Society, and are confident that they can be seized, through the co-operation of educators and learning centres throughout the world, of governments in both developing and industrialised countries, and of private sector interests.