ICT Mediated Learning for Socio-Economic Empowerment

Hakikur Rahman
SDNP Bangladesh.

INTRODUCTION

ICT can advance the learning process by making it faster, cheaper, and wider reaching that was not possible before. This form of learning can be treated as an interactive one among many and supporting the improvement of this process is expected to produce better result. However, innovative processes have to be incorporated both in terms of pedagogy and technology. Pedagogy should be universal and technology should give ubiquitous access with ambient intelligence.

In this aspect, several hundred projects with thousands of participants around the globe have produced acceptable results in the areas of general education, specialized skill development training and life long learning, and contributed positively to horizontal issues such as standards, metadata, interoperability and sustainability.

Among them in 2001, an ambitious project, Prometeus was built to establish a forum for expert opinions where participants from a wide range of countries, activities, professions, cultures, and languages productively interact towards the establishment of a community of cooperation in the field of educational technology and applications (Bottino, 2001). In 2002, Appeal launched a project on 'ICT Application for Non-Formal Education Programmes' with the support of the Japanese Funds-in-Trust. During its first phase, five countries (Indonesia, Lao PDR, Sri Lanka, Thailand and Uzbekistan) implemented programmes and activities to empower communities through the effective use of ICT.

However, in 2003 a study in this area entitled 'Quality and e-learning in Europe training' was conducted and found that through a survey among 433 teachers and trainers from public and private sectors, about 61% felt that the quality of e-learning was fair or poor (Attwell, 2005). So, investment in this sector will remain a fare-trade for many investors, including the development partners.

In this context, economic freedom plays an important role, in addition to technology update and information management. The 2006 Index of Economic Freedom measures 161 countries against a list of 50 independent variables divided into 10 broad factors in terms of economic freedom. The higher the score on a factor, the greater the level of government interference in the economy and the less economic freedom a country enjoys. In the ranking the top 5 countries (with lower scores between 1.28 and 1.74) are Hong Kong, Singapore, Ireland, Luxembourg and United Kingdom, whereas North Korea, Iran, Burma, Zimbabwe, Libya and Venezuela are among the bottom 5 (with higher scores between 5.00 and 4.16). This shows the level of ICT improvement in those countries, especially in Hong Kong and Singapore.

Henceforth, the ability to continue to learn throughout lifelong learning is seen as a pre-requisite to the development and sustainability of knowledge economies as countries, corporations and communities require workers and citizens with flexible, 'just-in-time' skills, competencies and knowledge. Particularly the need for diverse and accessible learning opportunities has drawn policy makers in many countries towards the use of ICT as an educational delivery mechanism (Selwynn, 2003).

BACKGROUND

Learning is the cognitive process of acquiring knowledge or skill through study, experience or teaching. ICT mediated learning is a process used to acquire data, information, skills or knowledge. It is a form of learning that enables learning, the learning in a virtual world where

technology merges with human creativity to accelerate and leverage the rapid development and application of deep knowledge. ICT based learning covers a wide set of applications and processes such as Web based learning, computer mediated learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, PDA, mobile phone, CD-ROM and other available technologies.

Empowerment is the process and practice of deriving power from within the self, or assisting others to do so through power-within. It is the process of equipping communities with knowledge, skills and resources in order to change and improve the quality of their own lives and their community. Whereas, socioeconomics is the study of the social and economic impacts of any product or service offering, market promotion or other activity on an economy as a whole and on the entrepreneurs, organization and individuals who are its main economic actors.

These effects can usually be measured in economic and statistical terms, such as growth in the size of the economy, the number of jobs created (or reduced), or levels of home ownership or Internet penetration (or number of telephones per inhabitant); and in measurable social terms such as life expectancy or levels of education. This paper is providing emphasise on raising socio-economic capacity of the economic actors through learning: information, content and knowledge; to lead into a knowledge-based economy.

A dynamic knowledge-based economy is capable of sustainable economic growth, but to achieve it, the economy not only needs a radical transformation within it, but also modernization of the education systems. Lisbon Council of European Commission (EC) envisioned this in their March 2000 meeting, while in 2002 the EC stated that by 2010 Europe would be the world leader in terms of the quality of its education and training systems. To achieve this, a fundamental transformation of education and training scheme has been taken throughout the Europe (European Commission, 2004). ICT based education always demands a longer-term strategies that EC has initiated in 2000. This strategy has been taken with a 10-year work plan to be implemented through open method of coordination aiming at coherent community strategic framework of cooperation in the field of education and training.

Table-1, below shows a few initiations taken by the European Commission to enhance the ICT based learning for their socio-economic development:

Table 1: Initiatives taken by EC for ICT based learning

Year	Groups/Councils	Strategies taken
2000	Lisbon Council	To form the most competitive and dynamic knowledge-based economy
2001	Ministers of Education	To achieve coherent community cooperation in the fields of education and training
2001	Working Group on ICT in education and training	To work on indicators and benchmarks, exchanging good practices and peer review
2002	Standing Group on Indicators and Benchmarks	Indicators and benchmarks were developed to monitor the progress
2003	Working Group on ICT in education and training	Focused on policy practices aiming at better quality education through integration of ICT

Integrating ICT in learning can mean anything from complete online training, with specific learning platforms using virtual microworlds and laboratories, to online access to/ and control of/ distant physical set-ups such as cyber-kiosks, or telecenters, or physics laboratory. This form of learning may also include a face-to-face situation in a laboratory with digital controls and computer based mathematic tools. However, the question will remain, as how it is taken into

account by current school architecture decisions, or what are the priorities in setting up costly permanent establishments that will include such ICT based activities?

Hence, the objectives for ICT based learning should be "to develop technologies to empower individuals and organizations to build competencies to explicit the opportunities of tomorrow's knowledge society. This is achieved by focusing on the improvement of the learning process for individuals and organizations, and of the intertwined learning process between individuals and organizations" (The Learning Citizen, 2003:2).

MAIN THRUST

Transformations with ICT can be limited to learner-centred multimedia learning, without changing the school curriculum and progressively invalidating the changes. Thus, school reform is not a spontaneous consequence of the introduction of ICT in education. Furthermore, as learners enter into education system with a growing ICT familiarity, the definition of basic skills- to be addressed by the educational integration of ICT- needs to embrace more and more higher-order thinking skills. Therefore, a global vision of ICT supported education has to be prepared for common citizens to actively take part in an increasing communication setting to improve their own values and thoughts. In this context, utilizing available utility software, exciting ICT-based e-Learning materials can be developed with an absolute minimum of effort.

Main thrust of this chapter comprises of a few case studies that are being treated as success stories in the aspect of ICT mediated learning, and at the same time act as empowering tool in terms of socio-economic development. Emphasis has been given to incorporate cases that involve ICT for community learning, and they have been portrayed with analytic approach. It is expected that these cases will be able to justify inclusion of ICTs in community learning and socio-economic empowerment.

Case Studies

Case 1:
Adult Basic Education (ABE)

Integrates the use of ICT into teaching practices for organizational realignment and empowerment

Established in 1990, ABE provided ICT supported courses in the South Wales Valleys in UK that is a post-industrial area with low levels of education, widespread illiteracy and innumeracy in adult population and growing digital divide. The programme has established community based Open Learning Centres (OLCs) dedicated to teaching basic literacy, communication and numeric skills to adult groups (Harris, 2002).

Table-2 shows the ICT based courses that evolved since its inception in 1997. This table not only shows the necessary modification of courses to meet the demand of the community throughout this period, but also adjusted contents that show the development trend of ICT based courses in that region.

Table 2: ICT based ABE courses during 1997-2002 (Adapted from Harris, 2002)

Year and duration of courses	Courses	Activities
1997-98, 4 hrs/week	Internet Club	• Web browsing / searching • email • HTML authoring
1998-99, 6 hrs/week	Internet Club2	• Web browsing / searching • Email

		• HTML authoring • Computer graphics • 3D Animation
1999-2000, 8 hrs/week	Internet Club3 under network	• Web browsing / searching • Email • HTML authoring • Computer graphics • 3D Animation
2000-01, 16 hrs/week	• Computer Club • Creative Computation • Web workshops	• Web browsing / searching • Email • HTML authoring • Computer graphics • Digital Video • Computer Programming
2001-02, 24 hrs/week	• Computer Club • Creative Computation • Web workshops • Film workshops • DTP workshops	• Web browsing / searching • Email • HTML authoring • Computer graphics • Digital Video • Computer Programming • Desk Top Publishing

Case 2:
EducaNext

Supports acquisition of high skills as per demand of the European industry and need of the global market

This programme supports the creation and sharing of knowledge between educators. It also enables collaboration among participants by providing a complete package of services to support the exchange and delivery of learning resources. EducaNext acts as a collaboration facilitator and at the same time as a marketplace. It is primarily considered as a business-to-business service and enables partnerships among institutes of higher education and industry to provide the right expertise at the right time.

Case 3:
Pan Asia Network (PAN) in Bhutan

Establishment of ICT supported distance education

In 2003, PAN started a project supporting Bhutan's National Institute of Education (NIE) to establish ICT based distance education programme for educators. The project developed and tested appropriate ICT based learning support system and assessed whether ICTs improve the quality of and access to learning. The project aims to implement 16 distance education courses, including development of online tutorials, support services, counseling services and multimedia contents. This project also emphasized the development of key performance indicators for distance educators, especially for those that may be replicated across the PAN regions (PAN, 2005).

Case 4:
S2NET in EU Region

ICT based learning as a tool for social inclusion

The project prepared a guide to support the target groups in the design, delivery and evaluation of training actions for disadvantaged individuals, provided directives to develop

learners' meta-competencies and train them in order to sustain an empowered attitude towards their practical lives (Dondi, 2003).

Main objectives are to:

Encourage use of e-learning for training educators and policy makers;
Support innovation in training and education methods using ICT based learning;
Promote good practices in the use of ICT for real life application; and
Raise awareness on e-learning to prevent social exclusion.

FUTURE ISSUES

The question about the quality of ICT based learning remains opaque and fraught with difficulties. These difficulties further compounded when it comes to evaluate the quality of the use of ICT for learning en masse. However, the development of ICT based learning products and opportunities are rapidly expanding in areas of education and skill development. The media varies from intranet, Internet, multimedia, email, interactive TV, teleconferencing, video-conferencing or other computer mediated learning methods. But, till now innovative approaches are missing to evaluate the development, growth, impact, and potential of ramification of this form of education system. Despite, global effort in diversified platforms, distance education or e-learning or ICT based learning has not attained at a suitable state; governments remain hesitant (often mismanaged or misguided) in funding, private investors behave in unfamiliar way, and development actors remain away from investing in this sector.

In near future, education would be online or at least blended with online teaching and learning activities. However, the strategies should focus on constraints and normalization of educational interactions, without much restricting on initial investments. Similarly, standardization of education system should be object oriented and encouraging. Learning models should pass through technical and quality as standards, rather than just 'industrialization' or 'professionalization' and focus on extensive researches to achieve fundamental educational objectives.

CONCLUSIONS

Looking at the success cases around the globe, it is apparently clear that, educational policy makers are tempted to deal with ICT based learning as a potent bridging method used to flexibilize individuals and bring them in adequacy with the need of the community: thus empowering them to act as element of socio-economic development. The main educational, social and economic discourse related to new professional, social and learning needs tends, therefore, to relapse recurrently into the flexibilization rhetoric, according to which the adaptability of the new demand evolves, if one adopts this perspective to a new flexibility of individual's desire (Apollon, 2005).

ICT-based education and training leads to improved learning environment. However, as with most research on education and technology the effectiveness of ICT-based mass learning is still fragmented. It is also suggested that learning with ICT leads to a more reflective, insight learning with more empowered and democratic diffusion amongst learners (Doubler et. al. 2003; Jeris, 2002) as well as proving to be an attractive and motivating medium of learning with basic skills (Lewis and Delcourt, 1998). Furthermore, engagement in e-Learning is also leading to wider educational outcomes, such as increases in learners' self-esteem and propensity to engage in further learning. Therefore, as Kennedy-Wallace (2002:49) reminds, "whether learning online in the workplace, in college or at home, e-learning is still about learning and culture, not just technology and infrastructure" is a true reflection of the transformation of communities along this facet.

REFERENCES

Apollon, D. G. (2005). The Shape of Things to Come in Learning and eLearning, Conference on eLearning, European Commission, Brussels, 19-20 May 2005.

Attwell, G. (2005). Quality and the use of ICT for learning in SMEs, The Wales-Wide Web. Retrieved February 03, 2006 from http://www.theknownet.com/writing/weblogs/Graham_Atwell/

Bottino, R. M. (2001). PROMETEUS Position Paper to the Open Consultation Process of the European Commission, September 2001.

Dondi, C. (2003). E-learning- Me included: How to use e-learning as a tool for social inclusion, Leornado da Vinci Programme 2000-2006, European Commission, 2003.

Doubler, S., Harlen, W., Harlen, W., Paget, K. and Asbell-Clarke, J. (2003). When learners learn on-line, what does the facilitator do? A paper at the *American Educational Research Association Annual Conference*, Chicago, Illinois, 21-25 April 2003.

European Commission (2004). "ICT in Education and Training, Progress report of Working Group C on Implementation of 'Education and Training 2010' Work Programme, Directorate-General for Education and Culture, European Commission, November 2004.

Harris, S.R. (2002). PD in Ponty: Design-by-Doing in Adult Basic Education. In Dearden, A. and Watts, L. (Eds.), Proceedings of HCI2004: Design for Life (Vol.2, pp. 41-44). Bristol: Research Press International. ISBN 1-897851-13-8.

Jeris, L. (2002). Comparison of power relations within electronic and face-to-face classroom discussions: a case study, *Australian Journal of Adult Learning*, 42,3:300-311.

Kennedy-Wallace, G. (2002). E-learning is booming but the UK still lags behind, *Guardian-Education Supplement*, April 16, 2002, p. 49

Lewis, L. and Delcourt, M. (1998). Adult basic education students' attitudes toward computers', A proceeding of *SCUTREA 1998 Conference*, pp. 238-242.

OII (2005). The Internet in Britain, a survey report of the Oxford Internet Institute on The Oxford Internet Survey (OxIS), University of Oxford, UK, May 2005.

PAN (2005). Connecting People-Changing Lives in Asia, Pan Asia Networking, November 2005; Retrieved February 02, 2006 from http://www.idrc.ca/IMAGES/ICT4D/PanAsia/PANASIAHTML/

Selwynn, N. (2003). ICT in Adult Education: Defining the Territory, A proceeding of the *ICT in Non-formal and Adult Education: Supporting Out-of-School Youth and Adults*, OECD/NCAL International Roundtable, Philadelphia, 12-14 November 2003.

The Learning Citizen (2003). The Knowledge Citizen, Forwarded by Jens Christensen, Issue no. 5, April-June 2003, p.2.

Walsh, K. (2002). IcT's about Learning: School leadership and the effective integration of information and communications technology, National College for School Leadership, UK, 2002.