Technologies for EDUcation

Achievements and Future Initiatives
in the Asia-Pacific Region

Contents

Director's Message

Using **ICT** to Achieve
Education For All Goals
and Reduce the Digital Divide in the Asia-Pacific Region

Our world is changing rapidly. Developments in information and communication technologies (ICT) and the emergence of knowledge societies are changing the ways we live, work and interact. Our educational systems must respond accordingly, not only in providing learners with ICT skills, but in harnessing the potential advantages ICT offers in improving teaching and learning.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) implements programmes in the fields of Education, Natural Sciences, Social and Human Sciences, Culture, Communication and Information. Within the Education field, UNESCO's main focus is access to education for all, and the quality of education. In pursuit of these objectives, UNESCO seeks to improve both the methodology and content of teaching and learning, as well as to promote policy dialogue, innovation and knowledge-sharing.

UNESCO has already made a significant impact in terms of widening access to education but after 15 years of working towards Education for All (EFA) goals, it has become clear that simply extending conventional education systems and methods is not always successful in reaching excluded groups and in retaining learners. At the same time, it has become plain that with the many changes that are occurring, including rapid globalization and the advent of knowledge societies, education systems need to be reexamined for their local relevance, and need to be adapted so as to ensure that all learners have the key competencies required for forming peaceful and prosperous societies.

UNESCO recognizes the potential of ICT to assist in achieving EFA goals, in particular the potential of ICT to:

• Enable the inclusion of groups which have so far not had access to education,

• Improve the quality of teaching and learning,

• Increase the efficiency and effectiveness in planning and administration in education ministries, schools, classrooms and community learning centres.

At the same time, UNESCO acknowledges that it is vital for policymakers, educators and managers to be aware and informed of the conditions in which ICT can be successfully used. There are numerous cases which demonstrate that unless implemented judiciously, investing in ICT can be a waste of scarce resources. In addition, experience has shown that without integrated policy development, sustainable professional development, curriculum integration and close monitoring and evaluation, ICT in Education initiatives invariably fail.

Careful and judicious decision-making is particularly important given the rapidity of ICT developments in recent years. Such changes have led to a digital revolution, a phenomenon which has transformed the world. For those with access to these technologies, such developments have enabled marked improvements in their quality of life and livelihoods. However, the vast majority of people in the world remain disconnected from this phenomenon and have yet to benefit from it. In the interests of global equity and of furthering UNESCO's mandate to uphold freedom of expression and

universal access to information and knowledge, there is a clear need to ensure that this digital divide is bridged.

We are therefore faced with a dual challenge: to utilize appropriate technologies to meet EFA targets, and to translate the potential benefits that ICT offers into a reality for all, especially for the most disadvantaged groups.

In 2002, in response to these challenges, and with the intention of exploring how best to harness the potential of ICT, UNESCO launched the Asia-Pacific "ICT in Education" Programme.

The aim of the ICT in Education programme is to empower learners, teachers, educators, managers and leaders to use ICT judiciously and effectively for expanding learning opportunities and ensuring educational quality and relevance. In addition, the programme aims to facilitate wider access to locally-relevant forms of ICT. In these ways, the programme aims to contribute both to achieving EFA goals and to reducing the digital divide.

The ICT in Education programme is now moving into its fourth year and has established a strong foundation for achieving its objectives. Its success so far forms the basis for the UNESCO Asia-Pacific ICT in Education *Vision 2008*, which states that by 2008 all the Member States in the Asia-Pacific region will have:

- A national ICT in education policy.

- ICT as a component of pre-service teacher training.

- The beginnings of a process of developing relevant, multilingual and appropriate educational content, especially for disadvantaged groups.

- Networks for sharing of knowledge and experiences.

- Key indicators developed and used to monitor development and to form strategies.

In the following pages we will share with you the key **achievements** so far of the ICT in Education programme, and will present the **future initiatives** we intend to implement in the next few years. We also describe our current **partnerships**, as well as how interested groups and organizations can become involved and share in this programme's activities and achievements.

Sheldon Shaeffer

Director, UNESCO Bangkok

Introduction:
The UNESCO Asia-Pacific *ICT* in Education Programme

Goals

The integration of information and communication technologies (ICT) into education systems offers the potential to increase the quality of education and the effectiveness and efficiency of education delivery, as well as the potential to facilitate greater access to information and services by marginalized groups and communities. Harnessing of this potential is seen by UNESCO as a means of contributing to the achievement of UNESCO's Education for All (EFA) goals and to the reduction of the Digital Divide.

With these considerations in mind, the UNESCO Bangkok office established the ICT in Education programme, which has as its main goal: **to contribute to enhancing the reach and quality of teaching and learning through ICT.**

Definition

The term, information and communication technologies (ICT), refers to forms of technology that are used to transmit, store, create, share or exchange information. This broad definition of ICT includes such technologies as: radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computer and network hardware and software; as well as the equipment and services associated with these technologies, such as videoconferencing and electronic mail.

Education for All (EFA) Goals:

- Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.
- Ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to completely free and compulsory primary education of good quality.
- Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programmes.
- Achieving a 50 per cent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults.
- Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality.
- Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

World Summit on the Information Society (WSIS):

UNESCO has participated in implementing the WSIS 2003 Action Plan, in preparation for the 2005 summit and beyond.

The UNESCO Bangkok ICT in Education Programme activities are compatible with the WSIS Action Plan's main action lines, which can be summarized as follows:

- Encouraging the effective participation of governments and all stakeholders.
- Facilitating universal access to information and knowledge.
- Developing infrastructure and facilitating the provision of connectivity and access to remote and marginalized areas at national and regional levels.
- Building capacity and literacy.
- Safeguarding and supporting cultural diversity and identity, linguistic diversity and local content.
- Strengthening international and regional cooperation.
- Fostering confidence and security in the use of ICT.

Scope

The ICT in Education programme, funded mainly by Japanese Funds-in-Trust (JFIT), focuses on six key, interrelated areas:

- **Education policy:** building national capacities to develop appropriate policies and plans for the integration of ICT into education.
- **Training of Teachers:** building the ICT-capacity of those at the heart of education.
- **Teaching and learning:** developing and delivering content using ICT.
- **Non-formal education:** using ICT to bring education to out-of-school youth and adults.
- **Monitoring and measuring change:** monitoring and measuring the impact of ICT in education using performance indicators.
- **Research and knowledge-sharing:** collecting, creating and disseminating information and knowledge about ICT in education.

Goal and Key Focus Areas

Research and Knowledge-Sharing

Education Policy

Monitoring and Measuring Change

Enhancing the Reach and Quality of Teaching and Learning through ICT

Training of Teachers

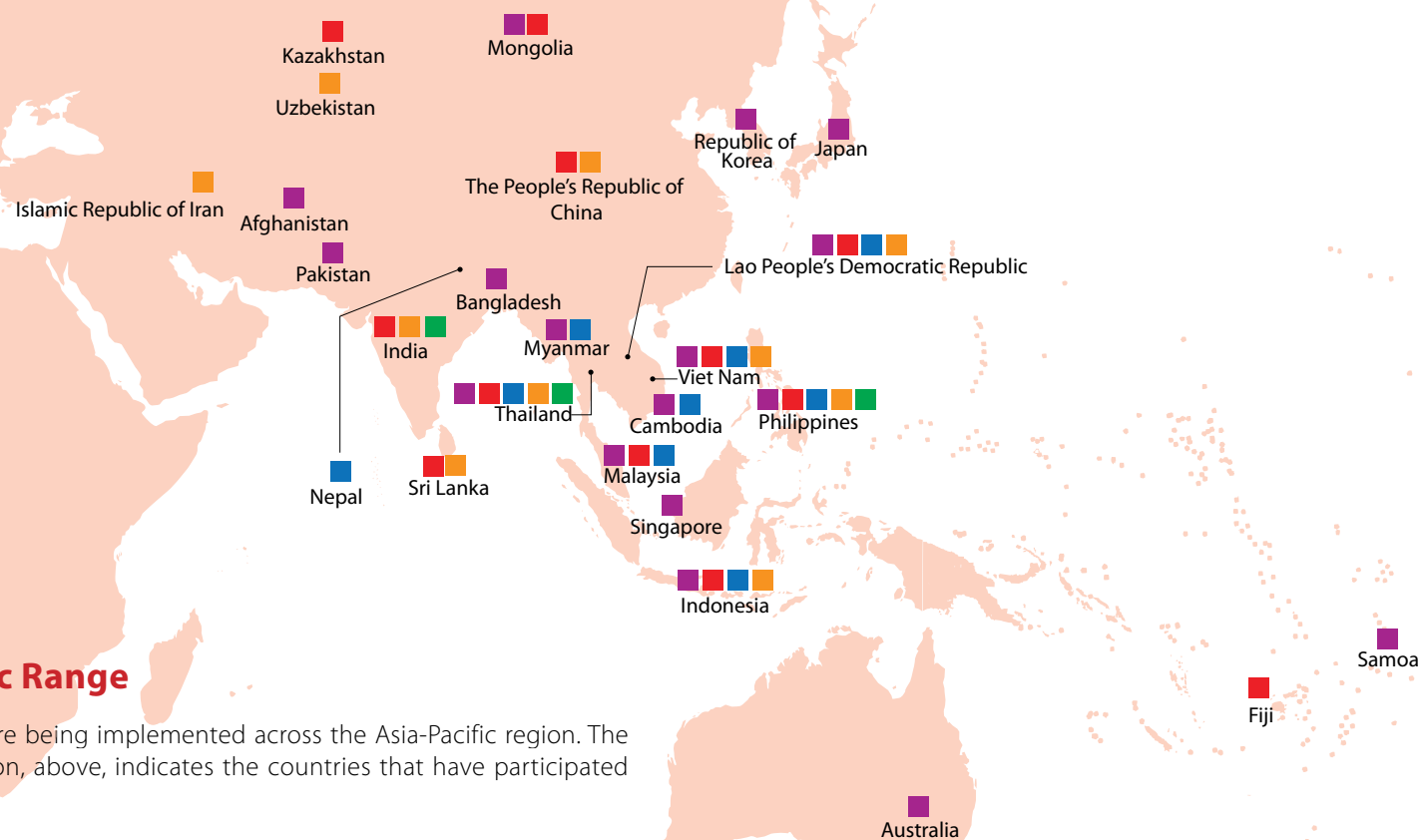Non-Formal Education

Teaching and Learning
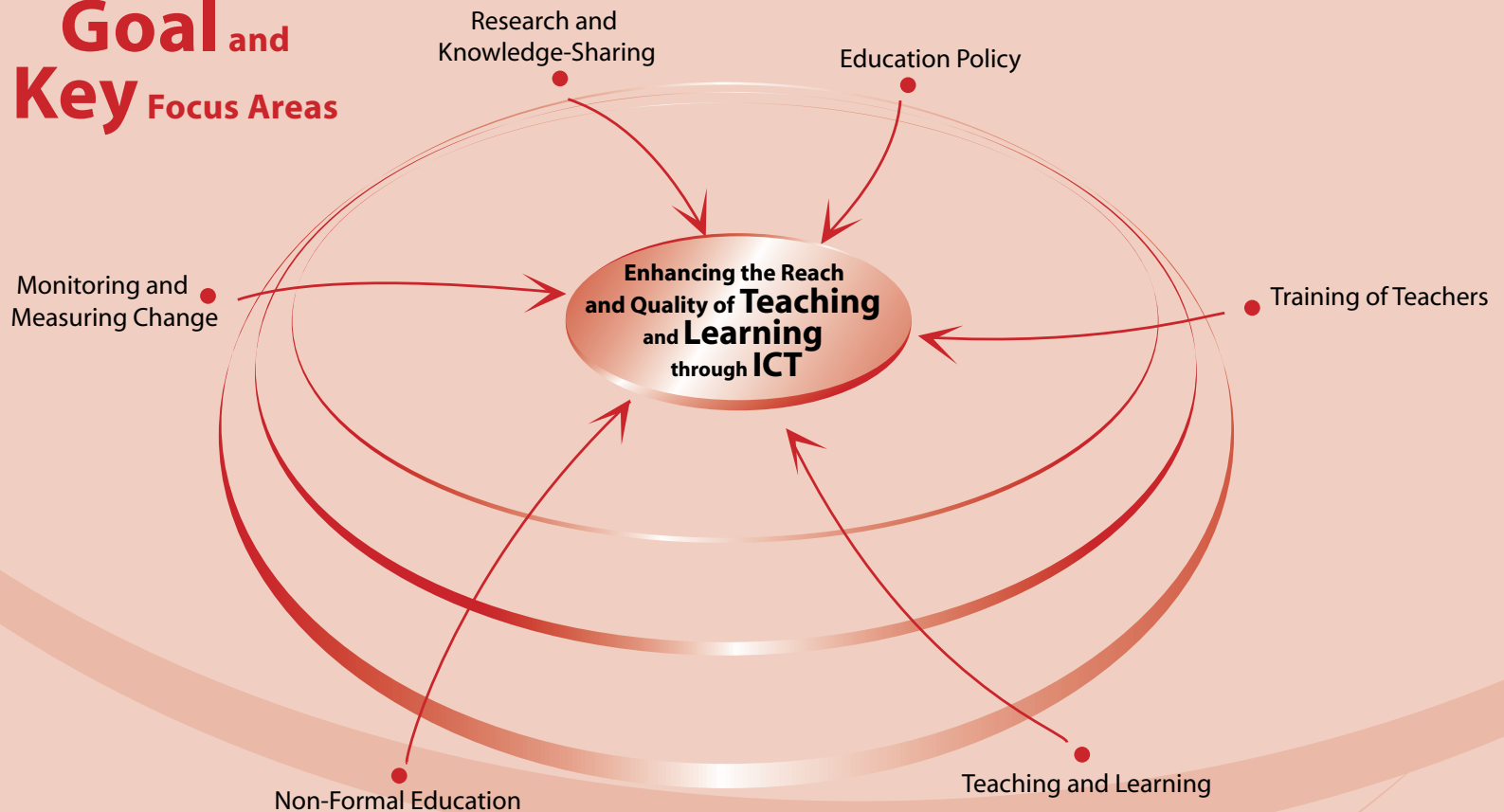
Projects

With the six focus areas in mind, the ICT in Education programme has designed and is implementing a number of specific projects. These projects are listed in the table below.

Focus area	Ongoing and New Projects
Education Policy	• ICT in Education Policy Project
Training of Teachers	• Training and Professional Development of Teachers and Other Facilitators for Effective Use of ICT in Improving Teaching and Learning • Establishing the Effective Use of ICT in Education for All in Cambodia • Training of Teachers in Information Technology to Meet the Emerging Needs of the New Learning Environment in Sri Lanka • Next Generation of Teachers (NET) Project
Teaching and Learning	• ASEAN SchoolNet: Strengthening ICT Use in Schools and SchoolNet in ASEAN Setting • Improving Management and Delivery of Technical and Vocational Education (TVE) through the Application of Information and Communication Technologies
Non-Formal Education (NFE)	• ICT for Community Empowerment through NFE • Tajikistan-Uzbekistan: Silk Road Radio Project
Monitoring and Measuring Change	• Performance Indicators on ICT Use in Education
Research and Knowledge-Sharing	• Regional Clearinghouse in Support of the ICT in Education Programme • Meta-survey on the Effective Use of ICT in Education

Technologies for Education

The **Asia-Pacific** Region

Kazakhstan

Uzbekistan

Mongolia

Islamic Republic of Iran

Afghanistan

Pakistan

The People's Republic of China

Republic of Korea

Japan

Lao People's Democratic Republic

Bangladesh

India

Myanmar

Viet Nam

Thailand

Nepal

Sri Lanka

Cambodia

Philippines

Malaysia

Singapore

Indonesia

Samoa

Fiji

Australia

Geographic Range

These projects are being implemented across the Asia-Pacific region. The map of the region, above, indicates the countries that have participated so far.

Colour Code	Project Type	Countries Involved in the Project
Purple	Policy	Afghanistan, Australia, Bangladesh, Cambodia, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Pakistan, Philippines, Republic of Korea, Samoa, Singapore, Thailand, Viet Nam
Red	Training of Teachers	China, Fiji, India, Indonesia, Kazakhstan, Lao PDR, Malaysia, Mongolia, Philippines, Sri Lanka, Thailand, Viet Nam
Blue	Teaching and Learning	Bangladesh, Bhutan, Cambodia, Indonesia, Malaysia, Philippines, Thailand, Cambodia, Lao PDR, Myanmar, Nepal, Viet Nam
Orange	Non-Formal Education	China, India, Islamic Republic of Iran, Indonesia, Lao PDR, Philippines, Sri Lanka, Thailand, Uzbekistan, Viet Nam
Green	Monitoring and Measuring Change	India, Philippines, Thailand

Technologies for Education

Guide to this publication

Technologies for Education

Part I

The first section of this publication describes the achievements of the ICT in Education programme so far, providing information about the activities undertaken and the key outputs and results.

Part II

The second section shows where the programme is heading over the next few years, providing details of upcoming activities and events and the materials and publications that will be produced.

Part III

The final section of this publication introduces the key partners in our various projects and invites the collaboration of new partners with matching goals, to share in achieving the programme's objectives.

Technologies for Education

Part 1:
Achievements

© Sirisak Chaiyasook

Part I: Achievements

1. Education Policy

Building National Capacities to Develop Appropriate Policies and Plans for the Integration of ICT into Education

Context

Rapid developments in information and communication technologies (ICT) in recent years have resulted in significant changes in the way the world operates and communicates. This in turn has had an impact on educational needs, both in terms of the content and the delivery of educational services, and has also put pressure on decision-makers to aquire new technologies. At the same time, forms of ICT are multiplying, with an increasing array of ICT options for decision-makers to choose from when integrating ICT into education.

In order to make successful use of ICT in enhancing the reach and quality of teaching and learning, policy makers need to be aware of how ICT can be of best value in their country's education system, and of the need to develop a supportive policy environment and framework at the national level for the integration of ICT into their education systems.

Project

ICT in Education Policy Project

This project began in 2003 and has so far involved participants from 16 countries in the Asia-Pacific region.

Achievements

- **Awareness raised and networks created**

  With the aim of raising awareness of the issues surrounding ICT in education, and of bringing together policy makers from the Asia-Pacific region to share ideas and form networks, a policy makers' workshop, the *High-level Seminar and Workshop for Decision-makers and Policymakers in Asia and the Pacific* was convened from 18 to 21 February 2003 and from 22 to 25 April 2003. Twenty-five Ministry of Education participants, including several Ministers and Vice Ministers of Education from ten Asia-Pacific

Member States attended this event. The workshop was organized in four phases: two face-to-face meetings in Bangkok and two online sessions.

An important outcome was the recommendation by the participants that tools be developed to help them integrate ICT effectively in their education systems. It was agreed that a "Toolkit" would be developed which would translate the expertise of key specialists and organizations into guiding principles. The Toolkit would thereby help guide education policy makers to formulate, plan, implement, monitor and evaluate policies which ensure the judicious and effective use of ICT to enhance the quality of teaching and learning in their respective countries. This proposed Toolkit would also provide a forum for interactions between policy makers, planners and practitioners in different countries.

- **Policy maker needs assessed**

  In order to prepare the policy makers' Toolkit, it was necessary to first assess the needs of policy makers. The UNESCO ICT in Education Unit undertook a needs-assessment through a series of questionnaires and through interviews with policy makers in the Ministries of Education of UNESCO Asia-Pacific Member-States. Results were documented in a publication entitled, *"Needs Assessment of ICT in Education Policy Makers in Asia and the Pacific: Towards the Development of a Toolkit for Policy Makers"*, published in 2004. The publication is available through the ICT in Education e-library.
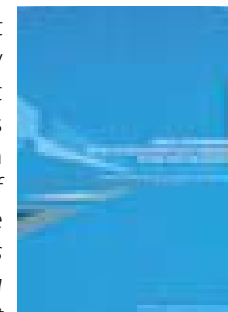
- **Results and impacts evaluated, published and disseminated**

  Six months after the workshop, the impact of the workshops in the participating countries was assessed in an external evaluation. The results were documented in a publication entitled, *"Report of the South-East Asian ICT Advocacy and Planning Workshop for Policy makers and National ICT Coordinators, 15 December 2003 and the Sub-Regional Meeting of National ICT Coordinators on Project Planning and Management, 16-18 December 2003"*, published in 2004, widely disseminated to policy makers, experts and educators, and made available online.

- ### Capacity of decision-makers enhanced

Through a series of workshops and from publishing and disseminating the resulting findings and lessons-learned, policy makers in the Asia-Pacific region have been provided with locally-relevant information about the ways in which ICT can contribute to enhancing the quality of teaching and learning in the region, as well as about the potential pitfalls of investing in ICT. Through their involvement in the workshops and in the process of preparing the Toolkit the capacity of policy makers to develop appropriate ICT-in-Education policy and strategies has been enhanced. Ongoing activities will expand on these achievements and further build national capacity.

© Cédric Wachholz

- ### Toolkit for policy makers developed

The basic outline and features of the Toolkit were discussed by participants at the *Developing the ICT in Education Policymakers Toolkit Workshop,* held from 2 to 4 March 2004. The framework and content of the Toolkit were developed, based on these discussions. In March 2005 the first version of the Toolkit (version 1.1) was reviewed by over 30 participants, including ICT-in-education specialists from research institutions and international organizations, and policy makers from several Ministries of Education in the Asia-Pacific region. Based on the feedback received, Toolkit versions 1.2 and 1.3 came out in April and July 2005, respectively. In September 2005 Toolkit version 1.3 was used to train educational planners from three Asia-Pacific countries (Pakistan, Philippines and Thailand) during the *Toolkit Training Workshop* held in Chiang Mai, Thailand.

The Toolkit was designed and developed by UNESCO, Knowledge Enterprise Inc. (KE) and the Academy for Educational Development (AED), with input from over 40 institutions and individuals worldwide, including the Commonwealth of Learning (CoL); Education Development Centre Inc; North Central Regional Education Laboratory (NCREL); Pacific Resources for Education and Learning Star Schools (PRELStar); the World Bank Institute, World Bank Information for Development Program (*infoDev*), and policy makers and practitioners from Cambodia, Indonesia, Pakistan, Philippines, Samoa and Thailand.
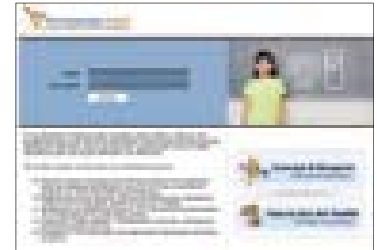
- ### Policy makers introduced to the toolkit and trained in its use

At the *Toolkit Training Workshop* held in Chiang Mai, Thailand, between 5 and 10 September 2005, the ICT in Education *Toolkit for Decision Makers, Planners and Practitioners* was introduced to policy makers from three pilot Asia-Pacific countries: Pakistan, Philippines and Thailand. The policy makers were trained in the use of the Toolkit and gave feedback and suggestions for further developing the toolkit. The Toolkit is now in the finalization stage.

© Cédric Wachholz

The final version of the first-ever online policy Toolkit will be made available in early 2006. There have already been requests for the Toolkit from all over the world, and various training schemes based on this Toolkit are currently being explored.

Further Information

Further information about the project goals and activities is available online at www.unescobkk.org/education/ict/policy. Publications can be accessed through the ICT in Education elibrary: www.unescobkk.org/education/ict/elibrary.

2. Training of Teachers

Building the ICT-Capacity of those at the Heart of Education

Context

The 2005 Education for All (EFA) Global Monitoring Report highlights the importance of high quality education in the achievement of EFA goals as follows:

"… the achievement of universal participation in education will be fundamentally dependent upon the quality of education available. For example, how well pupils are taught and how much they learn, can have a crucial impact on how long they stay in school and how regularly they attend. Furthermore, whether parents send their children to school at all is likely to depend on judgements they make about the quality of teaching and learning provided – upon whether attending school is worth the time and cost for their children and for themselves."[1]

The EFA Global Monitoring Report also confirms the central role of teachers in any education system, emphasizing that the quality of education is directly linked to how well teachers are prepared for teaching.

In today's world teachers need to be equipped not only with subject-specific expertise and effective teaching methodologies, but with the capacity to assist students to meet the demands of the emerging knowledge-based society. Teachers therefore require familiarity with new forms of information and communication technology and need to have the ability to use that technology to enhance the quality of teaching and learning.

Many countries in Asia and the Pacific region have realized the need for providing teachers with training in ICT and have launched various professional development initiatives. However, many of the training activities to date have been one-off, crash courses which focus on computer literacy and do not enable teachers to integrate ICT in their day-to-day teaching

activities and master the use of ICT as an effective tool to improve teaching and learning.

With the goal of enabling teachers to use ICT to enhance the quality of teaching and learning, the UNESCO ICT in Education Programme has implemented a range of regional, sub-regional and national projects, as listed below.

Project A:

Training and Professional Development of Teachers and Other Facilitators for Effective Use of ICT in Improving Teaching and Learning

This project began in 2003 and has been implemented in 11 countries so far in the Asia-Pacific region. This project is coordinated by the UNESCO Asia-Pacific Programme of Educational Innovation for Development (APEID).

Project B:

Bridging the Within-Country Digital Divide in Education: Improving Education in Western China through Innovative Use of ICT

This initiative is a sub-project of the project listed above. This project began in 2003 and targets the People's Republic of China where there is a within-country digital divide between the eastern region and the disadvantaged west. It is being implemented in urban and rural areas of three provinces: Gansu, Qianghai, and Ningxia/Guizhou and is coordinated by the Chinese National Commission for UNESCO through the Gansu Provincial Education Commission.

This project is developing innovative, practical models and pedagogies that will work in disadvantaged schools and communities where infrastructure for ICT application remains underdeveloped.

---

1   UNESCO, Education For All Global Monitoring Report 2005, p.28

Project C:

Establishing the Effective Use of ICT in Education for All in Cambodia

This project is based on the premise that the innovative and appropriate use of ICT can both improve the quality of learning and help reach those excluded from learning in Cambodia. This project began in 2003 and is coordinated by UNESCO Phnom Penh.

Project D:

Training of Teachers in Information Technology to Meet the Emerging Needs of the New Learning Environment in Sri Lanka

This project was launched in 2003 and is managed by UNESCO New Delhi.

Achievements

- Teacher-educators trained in ICT-pedagogy integration

At the "First National Training Programme for Teacher Educators on ICT-Pedagogy Integration" held in Penang, Malaysia, between 6 and 10 June 2005, teacher educators were trained in how to integrate ICT into pedagogy. This workshop was followed by a second training programme in Bangalore, India, between 29 August and 2 September 2005. These training programmes came about as a result of extensive planning and discussion, with the participation of education experts, educators, and administrators, in a series workshops and seminars. Modules that were studied by the teacher-educators included:
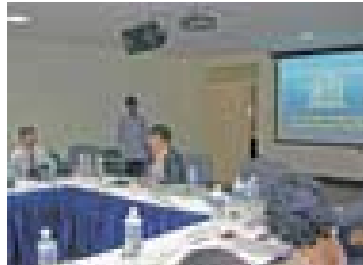
© Molly Lee

- Integrating ICT for pedagogical innovations.
- Integrating ICT productivity tools into learning practices.
- Enhancing teaching and facilitating learning using multi-modal instruction.
- Integrating open and flexible learning strategies in online education.
- Integrating the UNESCO Four Pillars of Education into classrooms in the information age.

- Guidelines developed for integrating ICT into teaching and learning

A series of workshops, held as part of the "Training and Professional Development of Teachers and Other Facilitators" project, resulted in a publication which provides guiding principles and models for integrating ICT in teaching and learning; a curriculum framework for integrating ICT with pedagogy in teacher education programmes; and regional performance standards for teacher competencies. This publication: *Regional Guidelines for Teacher Development for Pedagogy-Technology Integration*, was widely disseminated and can be downloaded from the ICT in Education e-library.
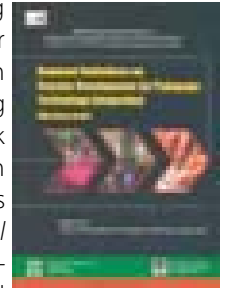
- Online forum created to facilitate networking and information exchange between educators

An e-forum was created to encourage networking and cooperation between teachers, teacher trainers and facilitators, and the exchange of ideas and resources on the effective integration of ICT in teaching and learning.

- Assisted in education policy development

As part of the "Establishing the Effective Use of ICT in Education for All in Cambodia" project, the UNESCO ICT in Education programme supported and facilitated the formulation and adoption of a Cambodian national policy and strategy on the effective use of ICT in Education.

- Integrated ICT into teacher-training courses

ICT integrated into the training courses of 25 teacher-training centres in Cambodia.

- Training provided in how to integrate ICT into teaching

Trained (in Cambodia) 600 teacher-educators, 2,000 teachers, and the personnel of two community learning centres and nine non-formal learning organizations, in how to integrate ICT into teaching.

© Marilyn Jeffrey

- Established an e-learning bus

  An ICT-equipped bus was set up which travels across Cambodia providing access to ICT equipment and services for many deprived schools and communities.

  © Marilyn Jeffrey

- Produced and disseminated local ICT-based content

  Produced (in Cambodia) local content on selected topics in print, CD-ROM and VCD, and widely disseminated this local content.

- Training conducted in using ICT for research and materials development

  Fifty staff members at the National Curriculum and Book Development Centre in Cambodia were trained to use ICT for research and in the development of locally-relevant and good-quality educational materials.

  © Marilyn Jeffrey

Further Information

Details about these teacher-training projects are available online at: www.unescobkk.org/education/ict/teachertraining. The teachers' online forum can be accessed through the following website: www.unescobkk.org/education/ict/teachertraining/forum. And useful information for teachers, trainees and learners can be found at the "Portal for Teachers": www.unescobkk.org/education/ict/teachertraining/portal.

3. Teaching and Learning

Developing and Delivering Content using ICT
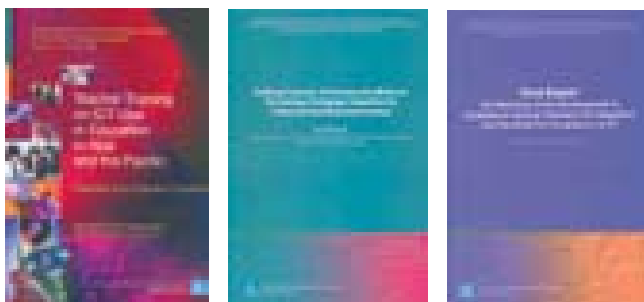
Context

ICT pervades modern society to the extent that many countries now regard the mastery of information and communication technology as a core element of basic education alongside literacy and numeracy. But ICT is more than just another subject for students to study; ICT has the potential to be a valuable tool in enhancing the quality of teaching and learning. For example the use of radio programmes in classrooms can provide interesting and relevant content in a range of subjects, including social studies and English language; while computer simulations and visualization technologies can help students to learn complex concepts in more concrete ways.

An examination of countries in the Asia-Pacific region has shown that in this region ICT is not being used to its full potential in enhancing the quality of teaching and learning. There are both technical and capacity-related barriers that have to be overcome. Many countries of the region do not make use of ICT at all in their education systems due to technical barriers (such as lack of infrastructure, equipment and connectivity) but even in countries where the technical barriers have been overcome and ICT is present in classrooms, other kinds of barriers remain. In these countries, ICT is often used simply as a supplement for existing pedagogical practices. However in order to fulfil the potential of ICT as a tool for enhancing teaching and learning, ICT must be fully integrated into pedagogical processes, which requires a cognitive shift on the part of educators, curriculum developers, administrators and policy makers.

With the goal in mind of overcoming the technical and capacity-related barriers, and fully integrating ICT into education in the Asia-Pacific region so as to enhance the quality of teaching and learning, the ICT in Education programme has implemented several cross-cutting projects. These projects bring together teacher-training initiatives with schemes to develop locally-relevant and innovative content.

Project A

The ASEAN SchoolNet: Strengthening ICT in Schools and SchoolNet Project in ASEAN Setting

This project was launched in July 2003 and has been piloted in 24 schools in eight participating ASEAN (Association of South-East Asian Nations) countries: Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand and Viet Nam. The project focuses on three subject areas: languages, mathematics and science.

© Tinsiri Siribodhi

What is SchoolNet?

SchoolNet is an initiative that aims to promote the effective use of information and communication technologies (ICT) in learning by promoting the connection of schools to the Internet and by creating a network of schools. SchoolNet envisages this network as being a means by which to: build connections among students, teachers and schools; share information and resources; and prepare learners for knowledge-based societies. SchoolNet also encourages the creation of locally-relevant and high-quality educational resources through ICT and champions lifelong learning.

Project B

Improving Management and Delivery of Technical and Vocational Education through the Application of ICT.

Technical vocational education (TVE) is concerned with the preparation of learners for employment through the provision of knowledge, skills and attitudes desirable in the modern working environment. With our working world now fully permeated with ICT, it is vital that TVE includes training in ICT applications.

Achievements

- **Infrastructure provided**

  Twenty-four schools in the eight participating ASEAN countries were provided with computer equipment and internet access.

- **Capacity raised of teachers and technical personnel**

  Teachers and technical personnel in the 24 pilot schools in eight ASEAN countries were trained in ICT operational skills, materials development using ICT, webpage development and SchoolNet network management.

© Tinsiri Siribodhi

- **Teaching-Learning materials compiled and distributed**

  Existing ICT-based lessons and materials for teaching language, mathematics and science were compiled (from the internet and other sources). These lessons and materials were examined and analyzed by teachers and curriculum developers, and the most useful and effective ones were included on a CD-ROM for distribution to schools in the ASEAN countries.

- **Locally-relevant teaching-learning materials created**

  Teachers were assisted to create (in their own languages), in cooperation with curriculum developers, ICT-based lessons and materials for integration into language, mathematics and science teaching in secondary schools. The best lessons and materials were translated into English and shared with other schools.


© Tinsiri Siribodhi

Technologies for Education

- ICT integrated into curricula and teaching-learning

Using the materials that had been developed, the project systematically integrated ICT into curricula and into the teaching of mathematics, science and language subjects in 24 schools in eight ASEAN countries, thereby enhancing the quality of teaching and learning in those subjects.

- Lessons-learned compiled and disseminated

The good practices and lessons-learned about ICT integration in education and SchoolNet experiences were compiled and documented in three publications, which have been disseminated to schools, teacher-training institutes and education ministries across the Asia-Pacific region.
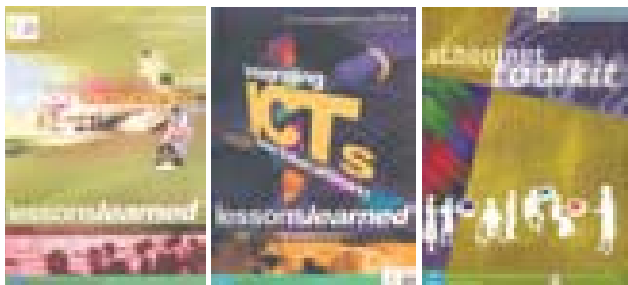
- Telecollaboration activities initiated

In order to strengthen SchoolNet and the sharing of knowledge, tele-colloboration activities were initiated among the 24 pilot schools, through the use of the Learning Circle model.

- Advocated for curriculum change

Through networking, advocated for changes in policies and programme strategies for integrating the use of ICT in the national education curriculum of ASEAN countries.

- Conducted a situational analysis of ICT in Technical and Vocational Education

Reviewed the current status of ICT equipment and related infrastructure in Technical and Vocational Education (TVE) departments in the seven targeted countries (Bangladesh, Bhutan, Cambodia, Lao PDR, Myanmar, Nepal, Viet Nam), and highlighted the equipment needs.

- Facilitated planning and project implementation

A workshop brought together 21 representatives from the seven beneficiary countries to familiarize them with the "Improving Management and Delivery of Technical and Vocational Education through the Application of ICT" project, including the expected results. At the meeting, the participants were also acquainted with several examples of the application of ICT in the delivery of TVE. The participants pledged to select contact points for the project upon their return to their countries. The identification of training needs was initiated; and the equipment-needs were confirmed. The participants left the planning meeting with an understanding of their roles and responsibilities in the implementation of the project.


© Tinsiri Siribodhi

Further Information

For detailed information about these projects visit: www.unescobkk.org/education/ict/teachinglearning. Specific information about the SchoolNet project can be obtained from the project page: www.unescobkk.org/education/ict/schoolnet.

All publications can be downloaded from the ICT in Education elibrary: www.unescobkk.org/education/ict/elibrary.
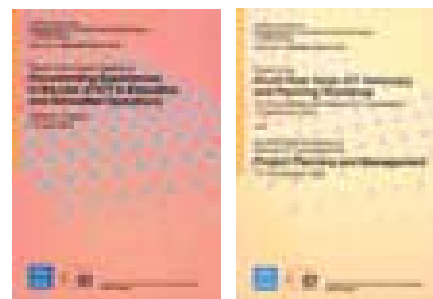
4. Non-Formal Education

Using ICT to Bring Education to Out-of-School Youth and Adults

Context

While more children are going to school than ever before, many drop out before grade five of primary school or graduate without mastering even a minimum set of literacy skills. In many countries of the Asia-Pacific region there is a lack of coordination and support for the education of these children, and little provision of literacy and continuing education for youth and adults.

© Marilyn Jeffrey

In view of this situation, UNESCO's Asia-Pacific Programme of Education for All (APPEAL) supports Member States in their efforts to systematize non-formal education (NFE), and assists them through training personnel and developing learning materials for NFE. Since the late 1990s, APPEAL has also been promoting the concept of **Community Learning Centres** (CLCs) for generating grassroots-based interest and participation in literacy, basic education and continuing education activities for disadvantaged people.

Recognizing the potential of ICT to transform the teaching-learning process in the Non-Formal Education context, as well as its potential in changing the way educators and learners gain access to knowledge and information, APPEAL has developed, through the ICT in Education programme, a number of projects which focus on using ICT to enhance the reach and quality of teaching and learning in the NFE context. Such projects have the ultimate aim of assisting learners in expanding their livelihood opportunities and in enabling them to improve their quality of life.

Project A

ICT for Community Empowerment through NFE

This project began in mid-2003 with pilot activities in five countries – Indonesia, Lao PDR, Sri Lanka, Thailand and Uzbekistan. In 2004, the programme expanded to include pilot projects in the People's Republic of China, India, the Islamic Republic of Iran, Philippines and Viet Nam.

© Marilyn Jeffrey

The project makes use of a range of ICT tools to improve the quality of teaching and learning in NFE, empower communities, facilitate the sharing of experiences, and enhance policy dialogues. These tools include audiotapes, CD-ROMs, computers, digital cameras, the internet, mobile vans, radio, television and videotapes. This project is coordinated by the UNESCO Asia-Pacific Programme of Education for All (APPEAL).

Project B

Tajikistan-Uzbekistan Silk Road Radio Project

The Silk Road Radio Project was launched in 2000 and uses a widely accessible form of information and communication technology, radio, to reach large audiences in an innovative and engaging way. The project involves the production of a twice-weekly radio drama series, which is transmitted in both Uzbek and Tajik languages. The radio series builds on the

APPEAL, UNESCO Bangkok

centuries-old tradition of story-telling to provide information and education on topics such as reproductive-health and other contemporary issues, to people in remote regions.

Achievements

- **Country-level action plans developed and implemented**

  Participating countries in the "ICT for Community Empowerment through NFE" project gathered together in 2003 to develop specific action plans for their country in terms of using ICT to enhancing non-formal education. These action plans were based on the results of a needs-assessment survey conducted prior to the meeting. The action plans have been implemented over the past three years through national-level activities.

- **Country experiences, knowledge gained and lessons-learned shared**

  The experiences, knowledge and lessons-learned of each participating country as a result of the implementation of the "ICT for Community Empowerment through NFE" project activities were shared at a regional workshop held in Vientiane, Lao PDR from 22 to 25 June 2004. The results were compiled and published in a report entitled *Information and Communication Technologies (ICTs) for Community Empowerment through Non-formal Education: Experiences from Lao PDR, Sri Lanka, Thailand and Uzbekistan*. The report was disseminated to educators, Community Learning Centres, and Education ministries across the region.
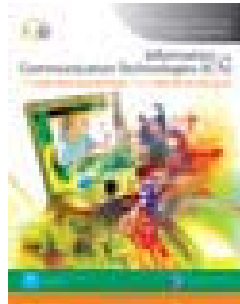
- **Community learning centres supported and enhanced**

  In Lao PDR, the "ICT for Community Empowerment through NFE" project focused on improving the capacity of community learning centres (CLCs) to serve as resource centres for enabling rural youth in Namon Nuea and Chahom villages in Vientiane province to improve their livelihood options and increase their incomes.

  The project has provided CLC staff with training in planning and management and in the skills needed to use ICT for such things as accounting, maintaining a community database, and the marketing of community products, as well as with the capacity to provide local youth and other community members with ICT equipment for accessing news and information about how to improve their life skills and generate income.

- **Community telecentres established**

  In Sri Lanka, the "ICT for Community Empowerment through NFE" project has assisted the Sarvodaya Shramadana Movement in establishing telecentres, with the aim of facilitating community development in Rathnapura, Gampaha and Kuliyaputiya districts. These community telecentres will serve the Sarvodaya's village banks as well as six CLCs operated under the NFE Unit of the Ministry of Education.

  APPEAL, UNESCO Bangkok

  Other project activities in Sri Lanka include the development of community databases and the dissemination of useful information to villagers and entrepreneurs through Sarvodaya's Mobile Multimedia Unit, as well as provision of computer training for village bank staff, village volunteers and CLC officials.

- **Rural communities empowered through provision of ICT skills**

  In Thailand, under the Northern Regional NFE Centre, the "ICT for Community Empowerment through NFE" project is empowering the members of rural communities who want to use ICT, in particular, computer programs, for facilitating better accounting processes and financial management (both for families and community stores).

  APPEAL, UNESCO Bangkok

  The project was initially implemented in Ban Samkha, and was extended to three other villages in Mae Ta district, Lampang province: Ban Tung, Ban Gom and Ban Don Fai. The training was extended by means of ICT laboratories, through which project staff have coordinated the sharing of the ICT skills among all residents of the targeted villages.

- Databases and networks developed

Under the "ICT for Community Empowerment through NFE" project, the National Commission for UNESCO of Uzbekistan is using ICT to assist in developing community databases and documentation for community planning and management. Other activities have included establishing an ICT network among CLCs in the target areas: Samarkand, Andijon and Bukhara, and providing ICT training to all personnel and community people at the project sites. In addition, the project has involved the development of NFE teaching-learning materials using ICT.

- Training provided

Training (managerial and technical) was provided in 2002 to build the capacity of writers, editors, producers, technical staff and others involved in producing the Silk Road radio programme.

- New radio programmes supported

A spin-off radio programme, inspired by the Silk Road drama series has been developed in Russian. The "Silk Road Radio" project provided training for those involved in this new drama series.

Further Information

Information about NFE projects, as well as useful resources on ICT and NFE are available through the following website: www.unescobkk.org/education/ict/nfe

Publications on ICT for Non-Formal Education can be accessed via the ICT in Education elibrary: www.unescobkk.org/education/ict/elibrary.

5. Monitoring and Measuring Change

Monitoring and Measuring the Impact of ICT in Education using Performance Indicators

Context

It is generally believed that the use of ICT in education can enhance the quality of teaching and learning and empower teachers and learners, but data to support these beliefs are limited and results of studies are mixed. While many examples of success stories exist, they have not been compiled and analyzed. Furthermore, projects implemented to integrate ICT into education are often initiated in the absence of widely accepted standard methodologies and indicators, making it difficult to subsequently monitor and assess their impact and demonstrate accountability to funding sources and the public.

In response to this situation the ICT in Education programme initiated a project to develop performance indicators to monitor the use and outcomes of the technologies, and to demonstrate accountability.

Project

Performance Indicators on ICT Use in Education

This project was developed in 2002 with the long-term objective to develop a structure of indicators to measure ICT use in education and provide a basis for policy planning and programme improvements, specifically demonstrating if and how the use of ICT in education enhances the quality of teaching and learning; serves as a catalyst for educational change; and empowers teachers and learners. This project is coordinated by the Assessment, Information Systems, Monitoring and Statistics (AIMS) Unit of the UNESCO Bangkok office.

Achievements

- Comprehensive situational analysis conducted

This situational analysis was conducted in order to determine what indicators have been used so far in other projects to measure the impact of ICT in education.

- A set of proposed indicators generated

Through a series of consultative workshops and meetings, the project produced a set of core performance indicators. These core indicators are grouped into five areas:
  - ICT-based policy and strategy
  - ICT infrastructure and access
  - Curriculum and textbooks
  - Teaching process and outcomes
  - Learning process and outcomes

- Performance indicators pilot-tested in three countries

Three countries, India, the Philippines and Thailand, were selected to pilot-test the performance indicators that were developed. In these countries, key personnel were trained on survey design and data collection, installation and the use of software for data collection, storage, analysis and dissemination. The Office of the Regional Advisor for the UNESCO Institute for Statistics served as the key source of technical advice in support of these national-level activities.

- Results published and disseminated

The results of the project have been published in two key publications:
  - *Consultative Workshop on Performance Indicators for ICTs in Education (report)*, published in 2002.
  - *Developing and Using Indicators of ICT Use in Education*, published in 2003.

These reports were disseminated for use by other countries, enabling them to develop performance indicators to assess the impact of ICT in education in their countries.

Further Information

For more information about these projects please refer to our website: www.unescobkk.org/education/ict/indicators.

Publications can be accessed through the ICT in Education elibrary: www.unescobkk.org/education/ict/elibrary.

© Tinsiri Siribodhi

6. Research and Knowledge-Sharing

Collecting, Creating and Disseminating Information and Knowledge about ICT in Education

Context

A wealth of information has been created and more is published every day about the value of ICT skills and about how specific forms of ICT can be used to enhance the quality of education, as well as about what works or does not, and why. Generally, however, policy makers, educators, managers and learners lack the time required to sift through the large volume of information to find what they need in order to come to decisions regarding the use of ICT in their local context. Also, there is often little information available that is relevant to the Asia-Pacific region. Experiences in the use of ICT in education in the Asia-Pacific region have until recently not been adequately documented, compiled, analyzed and disseminated, with the result that best practices and lessons-learned were not being shared and knowledge was not being expanded on how best to use ICT to enhance the reach and quality of teaching and learning. The potential users of this valuable information were therefore unable to gain useful knowledge to enable them to achieve their educational goals.

© Tinsiri Siribodhi

Faced with this situation, the ICT in Education programme implemented two projects which, as well as providing support for the other projects, provide a means of ensuring that relevant information about the use of ICT in education in the Asia-Pacific region is disseminated widely and lessons-learned are made available to all.

Project A

Regional Clearinghouse in Support of the ICT in Education Programme

This project was established in 2003 and serves both to support the other UNESCO Asia-Pacific ICT in Education projects and to collect, create and disseminate information and knowledge about ICT in Education in the region.

Project B

Meta-Survey on the use of Technologies in Education in Asia and the Pacific (2003 – 2004)

The Meta-Survey project began in 2003 and mapped the use of ICT in the education systems of the entire Asia-Pacific region by gathering information about the state of ICT use in primary and secondary, non-formal, technical and vocational education in 44 countries in the Asia-Pacific region. The Meta-Survey also examined issues relating to ICT use and gender equality in order to identify areas for further efforts to ensure that girls and women are not excluded from the educational benefits ICT offers.

Achievements

• **Project results and lessons-learned collected, analysed and disseminated**

All of the results, lessons-learned and publications from the various projects that make up the ICT in Education programme are shared via the Clearinghouse project which disseminates these results through a regular newsletter, distributes project publications and maintains a comprehensive website. The Clearinghouse thereby ensures that the knowledge created through the ICT in Education programme is accessible and usable by decision-makers, educators and learners everywhere.
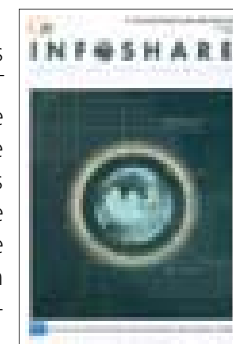
• **Information compiled in databases and portals**

Through ongoing research and information-gathering, several databases have been established which contain information relating to the use of ICT in education in the Asia-Pacific region. These databases are a source of reference material for researchers, and for those involved in: professional development and training; policy development; educational materials development; and monitoring and assessment of the impact of ICT in improving the quality of teaching and learning. In addition, a portal has been created (in cooperation with Teacher Training projects), containing a collection of online resources relating to the use of ICT in the professional development of teachers.

- **Project results, materials, databases and library made available online**

A website has been created that not only promotes the UNESCO ICT in Education programme activities, but also provides a means of sharing and disseminating information about other programmes and projects in the region that relate to ICT in Education, and about the issues and lessons-learned. The website includes the above-mentioned databases and portals, a virtual library, and resources, including links to online training courses and other useful services. An online forum for teachers and trainee-teachers has also been established which enables the exchange of information and resources among and between teachers and trainees.

- **Website enhanced**

The contents of the ICT in Education website are regularly updated and in March 2005 the Clearinghouse Project redesigned the website to enable greater ease of navigation in accessing its useful resources and services, and to facilitate flow, exchange and use of information.

- **Increased exposure**

An analysis of the ICT in Education website conducted in March 2005 showed that visits to the site had increased to more than 10,000 per month, up from 8,500 per month in September 2004 (not including visits by UNESCO staff).

- **Newsletter disseminated to an ever-widening audience**

During 2004, fortnightly e-newsletters were sent to a list of over 1,440 subscribers worldwide. Since January 2005, over 3,000 e-mail addresses have been added to the mailing list, with the result that the e-newsletter now reaches over 4,000 subscribers. The list continues to be expanded rapidly.
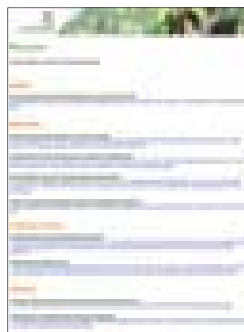
- **Regular reviews and analysis of website content**

An advisory team was set up to not only to review the Clearinghouse website contents but also to ensure that changing needs continue to be identified and met.

- **Mechanisms established to ensure information is accessible to all**

Publications are disseminated widely, with an emphasis on ensuring that those in remote and hard-to-reach areas have access to the information they need. The website is continually updated and the website contents are regularly put onto CD-ROMs, which are distributed to schools, teacher-training institutions and other organizations in regions that lack access to the internet (or which have an unreliable internet connection).
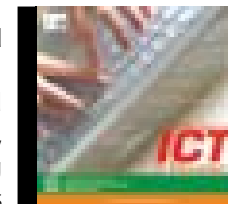
- **Evaluation of educational software conducted**

In order to assist decision-makers when deciding which educational software to choose, 250 pieces of educational software being used in the Asia-Pacific region, (particularly in Australia, India, Indonesia, Malaysia, Philippines and Thailand), were compiled and evaluated. Results of this evaluation have been made publicly available through the ICT in Education website databases, and can also be accessed directly through the following link: www2.unescobkk.org/education/ict/EduSWEval_2/search.asp.

- **Catalogue of Key Publications published and distributed widely**

A catalogue entitled *Integrating ICTs into the Curriculum: Analytical Catalogue of Key Publications,* was compiled which contains information about a range of resources, including books, CD-ROMs, online publications, websites and articles, that provide teachers, school managers, curriculum developers and administrators with guidelines and strategies for integrating ICT effectively into teaching and learning. This catalogue was disseminated in print form and also via the ICT in Education website.

The catalogue is divided into six sections, each with a particular focus area:
» General Principles and Strategies for Integrating Technology in Education and the Curriculum.
» Integrating Technology into the Classroom and Developing Lesson Plans that Integrate ICT.
» Technology Integration into Specific Subjects.
» Requirements for and Barriers to Effective Technology Integration.
» Evaluating Effectiveness of Technology Integration.
» Case Studies of Successful Technology Integration in Schools.

• **Meta-Survey results published and widely disseminated**

The results of the Meta-survey were compiled, analyzed and published, and this publication was disseminated in print form, CD-ROM and via the ICT in Education website.
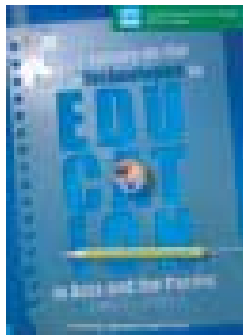
The survey includes an Asia-Pacific region overview and a country-by-country analysis of the following themes:
» National polices regarding use of ICT in education.
» Current levels of ICT infrastructure.
» Initiatives for training teachers in use of ICT.
» Access to and use of ICT in various learning environments.
» Constraints on the use of ICT in education, and opportunities for UNESCO assistance.

• **Mobile-learning report compiled and published**

In cooperation with the Asian Development Bank Institute (ADBI), a report of the recent *International Workshop on Mobile Learning for Expanding Educational Opportunities*, held in Tokyo from 16 to 20 May, 2005, was prepared and published. The report includes the papers presented at the workshop which cover the broad range of issues associated with the integration of mobile technologies into
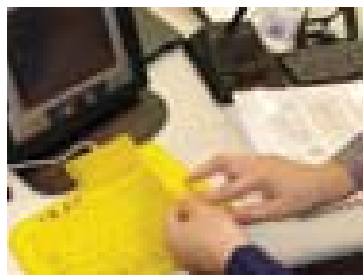
© Cédric Wachholz

education. Also included in the report are the country reports and action plan summaries from each participating country, including Bangladesh, Cambodia, India, Indonesia, Lao PDR, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka and Thailand.

Further Information

Please refer to the ICT in Education website for information about the projects and activities: www.unescobkk.org/education/ict.

Publications can be accessed through the ICT in Education elibrary: www.unescobkk.org/education/ict/elibrary.

© Cédric Wachholz

© Cédric Wachholz

Part II:
Future Initiatives

Part II: Future Initiatives

7. Education Policy

Building National Capacities to Develop Appropriate Policies and Plans for the Integration of ICT into Education

The future initiatives and activities related to "Education Policy" that will be implemented through the UNESCO ICT in Education programme include:

↘ Finalization of the online ICT in Education *Toolkit for Policymakers, Planners and Practitioners.* The completed toolkit will be made available in early 2006.

↘ Preparation of a printed manual of the Toolkit for easy reference by high-level decision-makers and other users.

© ADBI

↘ Creation of a version of the Toolkit on CD-ROM for distribution in those countries and areas without a reliable internet connection.

↘ Development of a video documentation process for training and presentation of Toolkit modules.

© Tinsiri Siribodhi

↘ Conducting of regional and national training courses for policy makers on how to use the Toolkit.

Planned locations and dates are as follows:

» Indonesia MoE (November 2005, Indonesia).

» Bhutan MoE (January/February 2006, Bhutan).

» Pacific region, 17 countries (March 2006, Fiji).

» East and South Asia region, 13 countries (date and venue to be determined).

» South Asia, Central and South West Asian region, 14 countries (date and venue to be determined).

↘ Facilitating of networking through the Toolkit forum – so as to share knowledge about issues relating to integrating ICT in education in the Asia-Pacific region.

↘ Ongoing improvement and updating of the Toolkit.

8. Training of Teachers

Building the ICT-Capacity of Those at the Heart of Education

The future initiatives in the area of "Training of Teachers" include the following:

↘ Launch of new project: **Next Generation of Teachers (NET) project**

Recognizing that teachers are central to successful learning, UNESCO has supported the professional development of teachers for nearly 60 years. UNESCO's most recent initiative is the **Ne**xt Generation of **T**eachers (NET) Project which is designed to assist Teacher Education Institutions (TEIs) in the Asia-Pacific region to prepare the next generation of teachers to judiciously use technologies for teaching and learning. The NET project has been guided by the vision of the Director of the UNESCO Asia and Pacific Regional Bureau for Education in Bangkok, Mr Sheldon Shaeffer, who expressed the goal as follows:

"By 2008, all regional Member States will be in a position to offer teachers an education on how and when to best use technologies for teaching and learning, through training which is integrated in all national pre-service teacher training institutions in the Asia-Pacific region. Learners will directly benefit from this new generation of well educated teachers, who will be empowered to use technologies and to facilitate the learners' active participation in learning, and in the knowledge societies and economies."

Key players in the Asia-Pacific ICT in Education field, including CISCO, Fujitsu (FSBM), Intel, Internexia, Nanyang Technological University, National Electronics and Computer Technology Centre (NECTEC) and Microsoft Asia-Pacific (Public Sector team). have applauded this initiative, and have participated in workshops to further develop the concept and to discuss means of supporting this endeavour. Microsoft was the first key player and partner to pledge a support going beyond the sharing of materials and know-how: Microsoft Asia-Pacific has made a key financial contribution in support of this initiative.

Where useful, NET will link to and build on the achievements made and networks created in the situational and needs-analysis phase and in other ongoing projects. The intention is to make this a "growing partnership" which includes all key organizations that are active in the field of professional development of teachers and that are concerned with ICT integration in teacher training.

Preparations for this project are currently underway. For further information about this new initiative please refer to the website, which will be updated as the project gets underway: www.unescobkk.org/education/ict/teachertraining/net.

» As part of the "NET" project, undertake an **assessment of how and where ICT is used in pre-service teacher training** in the Asia-Pacific region. The survey will answer questions such as: what are the ICT constraints, opportunities and needs of teachers in specific countries; how is ICT currently being used at the pre-service level (if at all) to train teachers; what ICT skills are trainees being given; and what can we learn from such use. Results of the assessment will guide the implementation of the NET project.

» As part of the "NET" project facilitate **computer literacy training for teachers** going through national pre-service teacher training institutions.

↘ Continue to implement **ongoing Teacher Training projects** and share lessons-learned

» Develop **guidelines** on competency-based standards for training teachers in integration in pedagogy.

» As part of the "Training and Professional Development of Teachers and Other Facilitators for Effective Use of ICT in Improving Teaching and Learning" project, conduct **national-level training courses** in pedagogy-technology integration for teacher-educators.

↘ Play a **facilitating role** in matching the needs of teacher training institutions in the Asia-Pacific region with groups and organizations that have developed ICT training materials and courses for teachers and educators. These groups and organizations could include ministries of education, teacher-training institutes, schools and private providers.

9. Teaching and Learning

Developing and Delivering Content using ICT

The initiatives and activities related to "Teaching and Learning" that are to be implemented in the future include:

↘ Continue implementation of ongoing projects and share lessons-learned

» As part of the "Strengthening ICT in Schools and SchoolNet Project in ASEAN Setting" project, compile and develop **ICT-based teaching-learning materials for various subjects** (based on the lessons-learned while creating materials for the subjects of languages, mathematics and science).

© Cédric Wachholz

» Expand the "Strengthening ICT in Schools and SchoolNet Project in ASEAN Setting" project beyond the 24 pilot schools by **replicating** the project and implementing ASEAN SchoolNet **telecollaboration activities** in other schools in the eight countries.

» Establish sustainable mechanisms to develop a **SchoolNet regional hub** that will support SchoolNet activities in-country.

» Update and revise the **SchoolNet Toolkit** based on the knowledge gained during project implementation and feedback from users.

» Organize a regional **ICT materials-development** competition and conference.

» Assess the **impact** of pedagogy-technology integration on teaching and learning.

© Tinsiri Siribodhi

10. Non-Formal Education

Using ICT to Bring Education to Out-of-School Youth and Adults

The future initiatives in the area of "Non-Formal Education" include the following:

↘ Continue implementation and expansion of existing projects:

» Prepare a **non-formal education resource pack** for CLCs (and other NFE providers), including training materials and research findings, for practitioners of non-formal literacy training and continuing education. The resource pack will be made available in print and CD-ROM, and will also be accessible via the UNESCO Bangkok website.

» The resource pack will include information about how ICT can be used in non-formal education in several areas, including:

- *Literacy and Continuing Education:* policy, planning and management, curriculum and materials development, training, monitoring and evaluation, and research and documentation.

- *Specific Content Areas:* gender, HIV/AIDS, environment and culture.

↘ Conduct an Asia-Pacific regional workshop to enable project participants (including representatives from CLCs) to share and document their **experiences and success stories.**

↘ **Replicate** success stories in CLCs in other countries, where applicable.

↘ Establish **networks** and build upon the experiences of Community Multimedia Centres (CMCs) coordinated by UNESCO's Communication and Information sector.

↘ Participate in **policy dialogues and advocacy** for the use of ICT in NFE, particularly in existing CLCs.

↘ Update the **Asia-Pacific Literacy Database** in collaboration with the Asia-Pacific Cultural Centre for UNESCO (ACCU). ACCU is conducting a regional survey, the results of which will contribute to the revised database.

↘

11. Monitoring and Measuring Change

Monitoring and Measuring the Impact of ICT in Education using Performance Indicators

The future initiatives and activities related to "Monitoring and Measuring Change" that will be implemented by the ICT in Education programme include:

↘ Continue implementation of ongoing projects and build on initiatives:

» Review and refine **performance indicators** through a combination of workshops and online discussions.

» Strengthen **national capacity** in the development of performance indicators, data collection and analysis, presentation and dissemination of results.

© Marilyn Jeffrey
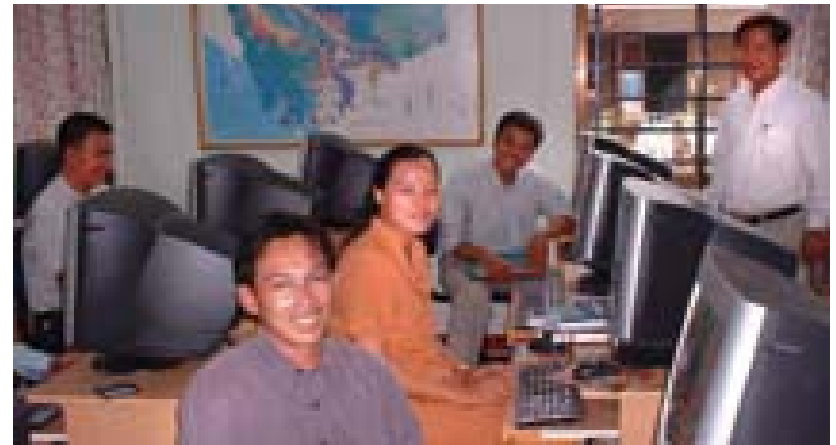
» Develop a **regional mechanism and database** for data collection, storage and analysis in collaboration with national and sub-regional focal centres.

» Advocate for and produce **guidelines and templates** on developing monitoring and evaluation action plans that assess the impact of ICT in education.

» Initiate a project of **comparative evaluations** using the guidelines and templates developed to assess the impact of ICT in education in the Asia-Pacific region.

12. Research and Knowledge-Sharing

Collecting, Creating and Disseminating Information and Knowledge about ICT in Education

The initiatives and activities related to "Research and Knowledge-Sharing" that are to be implemented in the future include:

↘ Conduct research and develop new resources on:

» Using ICT to meet **Education for All** goals in the Asia-Pacific region. This is in line with the programme's goal of harnessing technologies to achieve quality education for all, and is in response to requests by Member States for such information.

» Using ICT to develop **literacy** in the Asia-Pacific region, in accordance with the United Nations Literacy Decade (2003-2012) objectives.

» Low-cost, high-impact ICT **solutions** for disadvantaged groups, including the following initiatives:

› Providing low-cost and used computers to schools and training institutions in the Asia-Pacific region.

› Free and open source software (FOSS) for education.

› A digital library (set of DVDs/ CD-ROMs) for distribution to schools lacking access to print publications and the internet.

© Cédric Wachholz

» Electronic-learning and Mobile-learning, for example:

› Assisted e-learning for trainee teachers using high-quality online courses or CD-courses.

› Use of new wireless and low-cost handheld solutions (Simputers) for teaching and learning.

© Tinsiri Siribodhi

↘ Build on existing initiatives:

» Update the **Meta-Survey** on the use of technologies in education in the Asia-Pacific region for 2005-2006. The first Meta-Survey report will serve as a benchmark that can be used to evaluate the progress made of the entire region and learn about the changing needs of Member States.

» Continue the **annual bulletin** – Infoshare – which provides information about the latest trends and developments in the use of ICT in education within the Asia-Pacific region.

» Update and expand **mailing lists** so as to improve distribution networks and ensure that upcoming publications and materials are reaching target groups.

» Maintain and update **website** and services, including fortnightly newsletters, databases, portal and e-forum.

Part III:
Partnerships

Part III: Partnerships

Existing Partnerships

The ICT in Education programme is currently largely funded by Japanese Funds-in-Trust (JFIT), which has long recognized the vital role of quality education in achieving society's aspirations. The contribution made by JFIT has been a key factor in enabling the ICT in Education programme to produce the *Achievements* described in this publication, and JFIT has thereby made a meaningful difference in terms of achieving the long-term goal of enhancing the reach and quality of teaching and learning in the Asia-Pacific region.

Other organizations and foundations have also contributed to the ICT in Education projects referred to in this publication. The table on the following page lists (beside each of the projects) the partners and other organizations that have been involved in bringing about the project achievements.

Partners for the Future

The *Future Initiatives* outlined in this publication can only be implemented in cooperation with our partners. The ICT in Education programme welcomes new partners to take part in enabling this programme to implement the activities that will lead to enhancing the reach and quality of teaching and learning in the Asia-Pacific region, as well as to our wider goal of contributing to achieving the Education For All goals and to reducing the Digital Divide.

With a broad base of support, the ICT in Education programme will not only be in a position to continue its activities but will be able to develop new approaches and strategies. This support is needed now, so as to reach Education for All targets by 2015 and reverse the current trend: a widening digital divide.

For information on how your company, organization or institution can participate in achieving the stated goals, please refer to the table below and contact the Chief of the ICT in Education Unit, Mr Cedric Wachholz, at ICTinfo@unescobkk.org.

How You Can Participate

Your contribution is invaluable in enhancing the reach and quality of teaching and learning through ICT. Organizations and individuals are welcome to become involved in the programme in general, or in particular projects relating to their area of interest, knowledge or experience. Below are some suggestions on how you can become involved.

The private and public sectors, and philanthropic organizations	**Financial contributions** will enable the ICT in Education programme to sustain its activities and plan for the future. **Donations** of equipment, materials and services will assist the programme in achieving specific project objectives. **Sharing** of information, knowledge and expertise will facilitate project implementation.
Teachers and Teacher Training Institutions	**Active involvement** in the online teachers' forum and membership of networks will result in greater exchange of knowledge and lessons-learned, thereby assisting to better integrate ICT into education in the region.
Learners	**Sharing of information** about the benefits of integrating ICT in education with your teachers, educational facility, community and local decision-makers, will encourage greater integration of ICT into education systems in the Asia-Pacific region.
Press/Media	**Informing** decision-makers, teachers and learners about the potential of ICT to contribute to enhancing teaching and learning, will assist in raising awareness and bringing about change in governments, schools and institutions.

Project	Partners	Other organizations involved
• ICT in Education Policy Project	• Japanese Funds-In-Trust (JFIT) • Knowledge Enterprise (KE) • Academy for Educational Development (AED) • *info*Dev	• Asian Development Bank Institute (ADBI) • Commonwealth of Learning • Education Development Centre Inc. • North Central Regional Education Laboratory (NCREL) • Pacific Resources for Education and Learning Star Schools (PRELStar) • World Bank Institute
• Training and Professional Development of Teachers and Other Facilitators for Effective Use of ICTs in Improving Teaching and Learning • Bridging the Within-Country Digital Divide in Education: Improving Education in Western China (Gansu) through Innovative Use of ICT	• Japanese Funds-In-Trust (JFIT)	• Southeast Asian Ministers of Education (SEAMEO) Regional Centre for Science and Mathematics • National Assessment and Accreditation Council India • National Research Centre for Computer Education China
• Establishing the Effective Use of ICT in Education for All in Cambodia	• Japanese Funds-In-Trust (JFIT)	
• Training of Teachers in Information Technology to Meet the Emerging Needs of the New Learning Environment in Sri Lanka	• Japanese Funds-in-Trust (JFIT)	
• Next Generation of Teachers (NET) Project	• Microsoft Asia-Pacific (Public Sector team)	• Cisco • Fujitsu Sdn. Bhd. Malaysia (FSBM) • Intel • Internexia Sdn Bhd • Nanyang Technological University • National Electronics and Computer Technology Centre (NECTEC), Thailand

Project	Partners	Other organizations involved
• Strengthening ICT Use in Schools and SchoolNet in ASEAN Setting	• Japanese Funds-In-Trust (JFIT) • ASEAN Foundation	• Commonwealth of Learning • National Electronics and Computer Technology Centre (NECTEC), Thailand • Southeast Asian Ministers of Education Organization Secretariat (SEAMEO) • Southeast Asian Ministers of Education Regional Open Learning Centre (SEAMEO SEAMOLEC)
• Improving Management and Delivery of Technical and Vocational Education (TVE) through the Application of Information and Communication Technologies (ICTs)	• Japanese Funds-In-Trust (JFIT) • Network of UNEVOC (UNESCO International Project on Technical and Vocational Education) centres	
• ICT for Community Empowerment through NFE	• Japanese Funds-In-Trust (JFIT) • Selected Community Learning Centres (CLCs) in the Asia-Pacific region.	• National Electronics and Computer Technology Centre (NECTEC), Thailand
• Tajikistan-Uzbekistan: Silk Road Radio Project	• Japanese Funds-In-Trust (JFIT)	• The SEAMEO Regional Centre for Educational Innovation and Technology (SEAMEO InnoTech)
• Performance Indicators on ICT Use in education	• Japanese Funds-In-Trust (JFIT)	
• Regional Clearinghouse in Support of the ICT in Education Programme • Meta-Survey on the Effective Use of ICT in Education	• Japanese Funds-In-Trust (JFIT)	

© Cédric Wachholz

© Cédric Wachholz

Contact Details:

ICT in Education Unit
UNESCO Bangkok
P.O. Box 967 Prakanong Post Office Bangkok 10110 Thailand
Tel: +66 2 391 0577 (ext. 223)
Fax: +66 2 391 0866
E-mail: ICTinEd at unescobkk.org
Website: www.unescobkk.org/education/ict