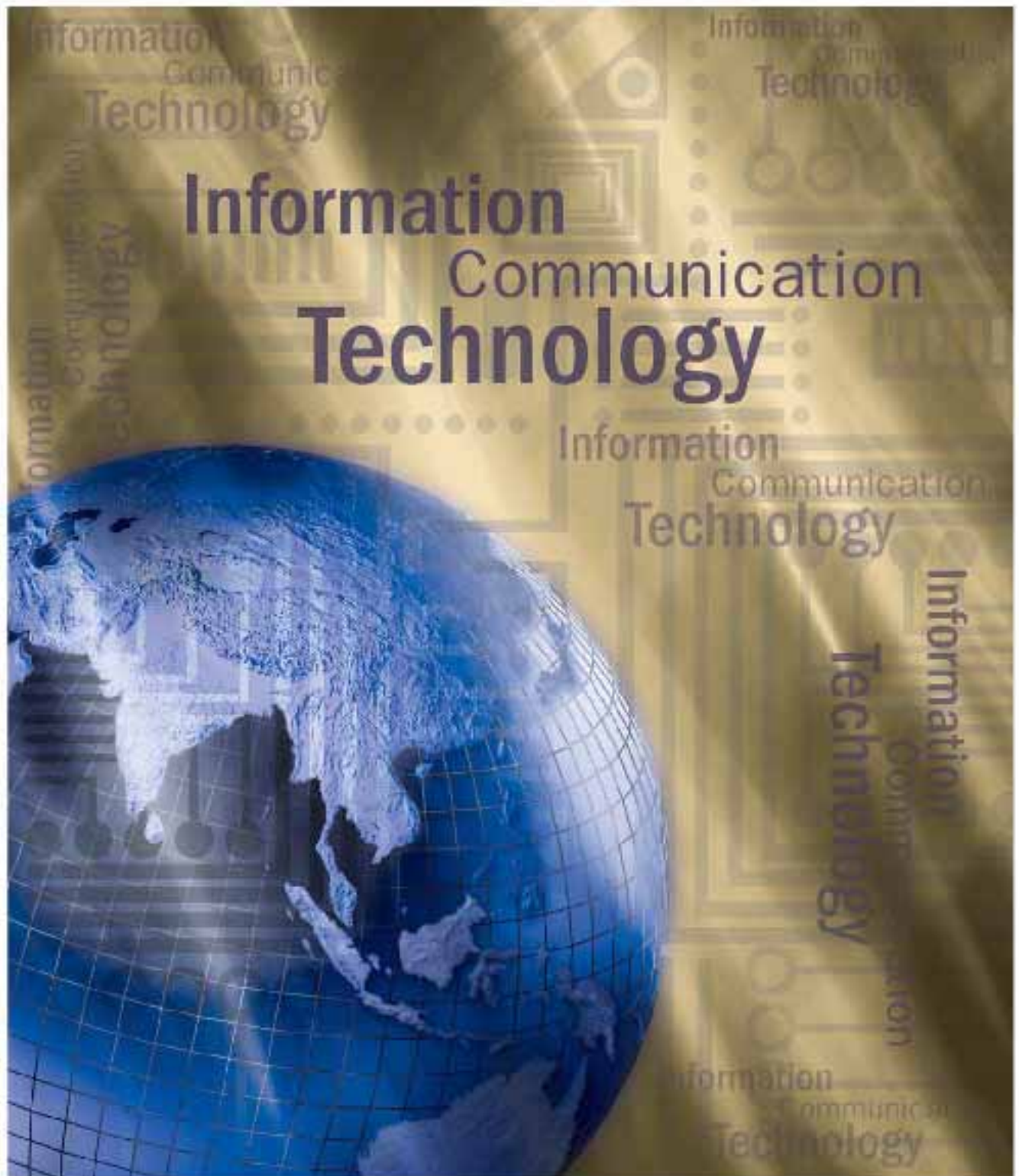


# INFO SHARE

SOURCES AND RESOURCES BULLETIN

IPS: INFORMATION PROGRAMMES AND SERVICES

VOLUME 3 NUMBER 1 2001



ASIA AND PACIFIC REGIONAL BUREAU FOR EDUCATION, UNESCO, BANGKOK, THAILAND

# C N T E N T S

## 2 Meet the New Director

### **IPS LATEST**

- 3 IPS Knowledge Resources Website: Gateway to Information Haven
- 7 Bridging Teachers and Access to Teaching Resources through ICT
- 9 New Features Enrich and Expand Adolescent Reproductive and Sexual Health Website

### **ICT IN UNESCO PROGRAMMES**

- 11 ICT Programme in Education: Access and Reform in Teaching and Learning
- 15 Online Teaching and Learning: A Tremendous Dividend or Divide?
- 17 UNESCO-ACEID International Conference on Education
- 18 ACEID Virtual University: Greater Mekong Sub-region to go Digital
- 19 Make IT Matter: APPEAL Software Development Project Expands Literacy Skills
- 20 Community Learning Centres Now Employ ICT to Promote and Facilitate Activities
- 21 Helping Non-Formal Education Bear More Fruit: MANGO Reforms NFE Monitoring Strategies
- 22 Learning to Surf the Social Sciences Resources
- 23 Preparation for a Virtual University
- 24 ICT is a Major Catalyst for Change: Information for All in Asia and the Pacific
- 26 Merging Programmes and Purposes: Working Group Decides to Consolidate UNESCO's Three Information Networks

### **UNTANGLING THE WEB**

- 27 What are Portals?

### **INFOTECH TRENDS**

- 30 IT and Education for the Poorest of the Poor: Constraints, Possibilities and Principles by Daniel A. Wagner
- 34 E-Learning Growth and Promise for the Developing World by Joanne Capper

### **NET WATCH**

- 40 Hot Websites for Learning and Teaching

### **IN PRINT**

- 44 Recent UNESCO Proap Publications

### **CD-ROM UPDATES**

- 46 Information Resources on CD-ROM

---

**INFOSHARE: Sources and Resources Bulletin** is published by Information Programmes and Services (IPS), Asia and Pacific Regional Bureau for Education, UNESCO, 920 Sukhumvit Road, Bangkok, 10110, Thailand. **Telephone:** (662) 391 0577 **Fax:** (662) 391 0866 **Email:** [ips@unesco.org](mailto:ips@unesco.org) **Website:** <http://www.unescobkk.org/ips> **Production:** Keen Publishing (Thailand) Co., Ltd.

---

**Editors:** Carmelita L. Villanueva and Suki Dixon **Writer:** Karen Emmons **Artwork and Design:** Daranee Nimsuwan

# Meet the New Director: Sheldon Shaeffer Appointed Director of the Asia and Pacific Regional Bureau for Education, UNESCO and Office of the Representative to Thailand, Myanmar and Lao PDR



*The new director, Sheldon Shaeffer, is interviewed by Carmelita Villanueva, Chief, Information Programmes Services (IPS)*

**Q.** Welcome to UNESCO PROAP. Could you please share some milestones or highlights in your professional/career experience which are of relevance to your new position?

**A.** I began working in Asia as a junior secondary school teacher (history, geography, English, a bit of music) in a small town in Sarawak, Malaysia. It was a wonderful place to learn firsthand about the rich interaction of many cultures in Asia – Malay, Chinese, and Dayak. I then taught English at Pattimura University in Ambon, Indonesia, at a time when it was a place of quite genuine tolerance and understanding. In between graduate degrees, I also worked in Indonesia with the Ford Foundation, largely in areas of educational decentralisation, university development and cultural preservation, and did dissertation research, as an anthropologist of education, in a village in East Java where I focused on the differing characteristics of, and demand for, public, private and Islamic education.

These experiences in Asia were followed by 10 years managing the funding of research in education and population through the International Development Research Centre in Ottawa, Canada. And this was followed by teaching and research at the International Institute for Educational Planning (IIEP) in Paris, focusing on community participation. My work in UNICEF started as a regional education advisor for Southeast and East Asia and the Pacific in Bangkok and, for the last three years, as Chief of UNICEF's global education programme in New York.

I hope that these experiences in much of the region covered by PROAP (I've visited about half of the countries in the region), and in teaching, planning and management, research, and technical assistance might be useful to promoting the work of UNESCO.

**Q.** What appeals to you in working with UNESCO in this region?

**A.** First, I think it will be important to take part in – perhaps even help to clarify and strengthen – both the current decentralisation and reform process in UNESCO and the ongoing follow-up to the Dakar EFA meeting – especially in an increasingly complex region which is so dynamic, rich, and challenging. It will be important to develop new and mutually rewarding working relationships and a uniting vision for Asia and the Pacific among the various kinds and levels of field offices in UNESCO. I also have a strong desire to return to a level of work a bit closer to the ground than the global, and I look forward to the opportunity to work with a talented team in PROAP on some of the most important issues of education policy and practice facing the world today.

**Q.** As the new Director of UNESCO PROAP, what new knowledge, perspective and experiences are you bringing in to further enrich and revitalize UNESCO, Bangkok?

**A.** Others will be better able to judge this after I have been in PROAP for awhile but I hope to be able to help enrich UNESCO Bangkok in the following ways:

- by exploring and disseminating the broader, multi-sectoral definition of quality declared in Dakar;
- by continuing to strengthen the EFA partnership throughout the region, at regional, sub-regional and national levels;
- by focusing more attention on the comprehensive needs of young children (below primary school age) and young people (above primary school age) – life cycles which both UNESCO and UNICEF have been exploring with useful results in recent years; and
- by looking even more urgently and carefully at what education systems can do to prevent the further spread of the HIV/AIDS pandemic and mitigate its impact on systems and schools, students and learning.

**Q.** How would your long experience working with the International Institute for Educational Planning and UNICEF contribute towards quality improvement of education programmes in Asia-Pacific?

**A.** At IIEP my work focused on community participation – how to develop policies and programmes at the national level which would encourage school-community-parent partnerships in education at the local level – not only in paying for education but also in helping to improve its quality. I learned a lot in my three years at IIEP – including from staff and trainees from Asia and the Pacific – about how greater community involvement could lead to quality improvement: through more active school-community organisations, through greater oversight of what goes on in schools, through participation in the development of local content, relevant materials, and even teacher orientation.

At UNICEF – where the mandate is the rights and well-being of the child in all of its aspects – we worked to promote a definition of quality, adopted at Dakar, which sees quality as going beyond the essential nature of what goes on in classrooms (the content of education, teaching-learning processes, and the actual outcomes of learning) to include the quality of the learners themselves (are they healthy, well-nourished and ready to learn?) and of the learning environment (is it safe, secure, and healthy as well as academically effective?). I think that the demands of the 21st century, so well laid out in the Delors report, make it imperative that we all work to achieve this broader definition of quality.



## IPS Knowledge Resources Website: Gateway to Information Haven

- Downloadable lessons and curriculum materials for teachers
- Best practices in sustainable development
- Latest socio-economic indicators in the Asia-Pacific region
- Full-text newspapers and formatted articles

Pressing a few keys can turn up a wealth of knowledge. Some 394 sources to be specific.

Resources gathered from universities, organizations, associations, libraries, research groups and publications are available to anyone within UNESCO's continually expanding and revised Knowledge Resources Website. It is the always-open library that doesn't care whether you're in a classroom in Outer Mongolia or in a farmhouse on a Pacific island. Rather, it is concerned with breaking down "the tyranny of distance" between people and information and spreading the unprecedented deluge of knowledge that is available today.

More and more of the immense research and data materials housed in UNESCO Bangkok's Information Programmes and Services (IPS) resource facility are being copied from the shelves into the Knowledge Resources Website.

The site is organized with a main menu providing access to Electronic Articles, the Photo Library, the Virtual Library, Databases, Ordering Publications, Portals, Electronic Publications, Webcast and Search of the Month. On the homepage, the side bar accesses information about UNESCO programmes, including Information Programmes and Services (IPS); The Regional Clearing House on Population Education and Communication (RECHPEC); Adolescent Reproductive and Sexual Health (ARSH); Education for All (EFA); and Asia/Pacific Cultural Centre for UNESCO (ACCU). Current and past issues of *INFOSHARE: Sources and Resources Bulletin* are also available on the site.

The following boxes describe the highlights of many sections of the site. As the site continues to develop and expand, keep up-to-date by visiting.

<http://www.unescobkk.org/ips>



# KNOWLEDGE RESOURCES

## IPS Virtual Library

For “knowledge resources” on education, social and economic issues, gender, population, social science, culture, health, HIV/AIDS and more, the IPS Virtual Library offers over 1,000 Website links to bibliographic, full-text and statistical databases; archives and libraries; full-text electronic journals and periodicals; and reference materials such as atlases, encyclopaedias and dictionaries.

### **Bibliographic Database** examples:

*UNESCO IPS Database consists of three bibliographic databases on*

- education, social and human sciences, culture and communication;
- population education and reproductive health; and
- periodicals and journals.

The IPS Database also features a search function for easy access to topics of interest.

*VOCED (Vocational Education and Research Database) is an Internet database of research abstracts on technical and vocational education.*

### **Subject and Statistical Databases** examples:

*Asia-Pacific Literacy Database* is a resource for literacy policies and programmes in the region, literacy facts and figures, curriculum and publications.

*Asia-Pacific in Figures* contains social and economic indicators from 57 countries in the region.

*Economics and Statistics* offers key indicators of Asian and Pacific countries, economic reports, Asia Development Review, and Asian Development Outlook.

*Education Statistics* includes databases, indicators and yearbooks.

*FAOSTAT* is an online multilingual database containing records covering international statistics on production, trade, food balance sheets, fertilizers and pesticides, land use and irrigation, forest and fishery products and others.

*INNODATA* provides a database of educational innovations on curriculum, teaching methods, primary and secondary education and teacher education.

*Population and Development Indicators for Asia and the Pacific, 2001* presents indicators on population growth, death, birth, fertility and mortality rates; age-sex ratio; urban growth; school enrolment; and women’s participation.

*State of the Environment in Asia and the Pacific, 2000* contains environmental situation analyses and trends in countries in the region as well as policy and programme responses and best practices.

*World Education Report 2000* provides indicators on key aspects of education in over 180 countries, including progress on the implementation of the right to education.

### **Libraries & Information Services** examples:

*Berkely [please check spelling] Digital Library* categorizes libraries into academic, public, national, state, regional and special and school libraries and can be searched from any region of the world.

*Education Virtual Library* links to education libraries from selected countries categorized by education level, resources, type and country.

*University of South Florida Virtual Library* is a resource for databases on various topics, electronic journals, electronic books, reference tools, catalogues and online sources.

### **Directories** examples:

*ICOMOS* lists the non-governmental organizations of professionals engaged in the conservation of the world’s historic monuments and sites.

*International Directory of Environmental Education Institutions* is a directory of scholarships and grants for students and researchers in Asia and the Pacific.

### **Journals & Periodicals**

*Electronic Journals in the Field of Education* offers scholarly, peer-reviewed and full-text journals, accessible without cost. *Online Newspapers* connects to full-text major dailies and newspapers from all over the world.

The Internet Public Library contains over 3,000 titles that can be searched or browsed by subject or title.

### **Encyclopedias**

Techencyclopedia

World Fact Book

### **Atlas and Maps**

Atlademia Online

The World Sites Atlas

### **Dictionaries**

GIS Dictionary

YourDictionary.com

### **Internet Resources**

Education Search Engines

WiredGuide.com



## IPS Portals



**ICT for Teacher Training** is a gateway to Internet resources dedicated to training teachers in using ICT to enhance teaching skills.

**E-Learning** has hundreds of links to electronic learning resources and tools categorized by education level, e.g. primary, secondary, higher education and life-long learning, and also links to relevant academic theses and dissertations.

**Science and Education** links to Websites addressing science learning, chemistry, technology, geography, associations dealing with science education, and more.

**Development Gateway** helps communities, organizations and individuals build partnerships, share ideas and work together to reduce poverty.

**UNESCO Libraries Portal** links to different types of libraries around the world, as well as library associations and networks, and Websites for library education and training.

**UNESCO Archives Portal** offers links to archives world-wide including primary sources online.

**StudyAbroad.com** provides the opportunity to search study abroad programmes by Academic year/Semester, Summer, Intern Abroad/Volunteer, High School, Intersession, ESL TEFL Certificate, Summer Law and Business.

**United Nations POPIN** is a portal to population, demography, family planning, and reproductive health Websites, as well as linking to electronic libraries, the latest demographic and population statistics, databases and the POPIN network sites.

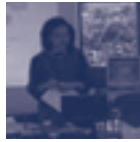
## Electronic Articles



The Electronic Articles section of the site contains more than 300 hundred articles covering 26 UNESCO-related topics. It provides the latest information to assist in decision making, policy planning and implementation. The articles are from both online and hard copy sources.

The topics provided for searching are:

- Culture
- Cultural Lifestyles
- Digital Divide
- Distance Education
- Early Child Education
- Economic, Financial, Environment and Social Development (Statistics and Indicators)
- Educating Girls
- Educational Reform and Educational Policy
- E-Learning
- Gender Equality and Women Empowerment
- Globalization
- Governance and Fight Against Corruption
- Higher Education
- HIV/AIDS
- Human Rights
- Information and Communication Technology
- Lifelong Learning
- Literacy
- Peace and Conflict Resolution
- Poverty Reduction
- Science and Mathematics Education
- Social Disparities in Education
- Social Issues
- Social Monitors
- Sustainable Development
- Teacher Education



### Search of the Month

Every month this site features a special IPS search. Examples of the searches for 2001 are shown below. Archives for the Search of the Month topics for the years 2000, 1999 and 1998 are also accessible on the site.

2001

- December: Cultural Heritage Management and Conservation
- November: Educational Reforms
- October: Distance Learning
- September: Innovations in Education
- August: ICT for Teacher Training
- July: Adolescent Reproductive and Sexual Health
- June: E-Learning
- May: Governance
- April: Social Science Research
- March: Multiculturalism
- February: Human Rights
- January: Poverty Alleviation

### Ordering Publications

Twenty-four UNESCO-related topics offer listings of publications available to order from IPS. These topics are:

- Basic Education and Primary Education
- Education
- Communication and Information
- Continuing Education
- Culture
- Culture of Peace
- Education for All
- Educational Facilities
- Education Innovation
- Educational Planning and Sector Analysis
- Environmental Education
- General
- Higher and Distance Education
- Human Rights
- International, Moral and Value Education
- Literacy and Non-Formal Education
- Newsletters
- Population Education and Adolescent Reproductive Health
- Preventive Education (HIV/AIDS and Drugs)
- Secondary Education
- Social and Human Science
- Special Needs Education
- Teacher Education
- Technical and Vocational Education, and Enterprise Education
- Women and Girl Education

### Photo Library

The UNESCO photo library offers a selection of UNESCO photographs for use free-of-charge to professionals in UNESCO's field of competence: education, social and human sciences, communication and culture. All the photographs are from the Asia-Pacific region. We greatly appreciate photo contributions to this library. Photos should be sent to [pips@unesco-proap.org](mailto:pips@unesco-proap.org) along with your full name, agency affiliation and a short description of your photo. Your contribution will be noted accordingly.

Photographs are currently available for the following topics:

- Community
- Mobilization/Participation
- Conferences/Meetings
- Cultural Presentations
- Early Childhood Education
- Gender and Women's Issues
- Girls' Education
- Information and Communication Technology
- Libraries and Information Services
- Life Skills and Education
- Literacy/Non-formal Education
- Migration/Urbanization
- Poverty Alleviation
- Primary/Basic Education
- School Planning and Management
- Secondary Education
- Technical and Vocational Education Training



## Bridging Teachers and Access to Teaching Resources through ICT



Teaching in a time of change and technology is as tough as it is exhilarating. And it is probably a bit frightening when people start asking whether teachers are really needed in an Internet society where teaching resources are readily available to learners.

Information and communication technology (ICT), while expanding knowledge possibilities at a staggering pace, is also altering the way people learn. Education has been made simple and complex simultaneously. But teachers are in no threat of being made redundant.

"Experiences in a variety of settings – in primary, secondary and higher education, in vocational training institutions and in enterprises – suggest that the teacher and trainer will not disappear," according to the International Labour Organization's (ILO) World Employment Report 2001. Rather, their functions and roles will simply change. To be valuable, interactive on-line education requires someone teaching learners how to make the best use of technology for problem solving and knowledge building.

To perform their new role, teachers must develop their know-how and skills in the use of ICT in education. To help teachers gain access to material about this subject, IPS launched a portal on ICT for teacher training on its Website in October. The portal, (<http://www.unescobkk.org/ips/ict>) provides information, materials and Website links that:

- Link to articles and papers that explain the role of ICT in the changing society and in education;
- Help teachers identify and adjust to their new roles in the ICT environment as well as grasp the potentials of ICT in supporting new ways of teaching/learning;
- Provide access to on-line training courses on ICT;
- Present strategies and techniques on how to integrate ICT into teaching;
- Link to a number of Websites that provide teaching ideas, lessons and curriculum materials that can readily be used in an ICT-based teaching process;
- Provide sources for accessing education software, shareware and freeware dealing with computer applications for teaching specific subjects;
- Show experiences and techniques on how teachers and students have collaborated electronically in educational programmes;
- Demonstrate how to teach or bring the classroom on-line; and
- Evaluate the learning experience delivered through ICT as well as the impact of ICT on education in general.

## THE ICT FOR TEACHER TRAINING PORTAL INCLUDES:

### 1. ICT in Education



This section offers links to articles, research studies and papers that explain how education has changed to adapt to the new knowledge society and how information technology has contributed to educational reform and improvements in teaching and learning. Further offerings are information on the benefits of ICT in education, guidelines being used by policy makers who are developing ICT programmes for education and discussions of policy issues regarding the use of computers in schools.

### 2. Teachers' Roles in the ICT Environment



Links to Websites that discuss the new knowledge, skills and competencies required of teachers and the changes brought about in teaching and learning. Included are articles that explain how ICT can motivate teachers, assist them when confronted with teaching problems and help them to become more effective educators. Other topics include viewpoints of teachers on the role of ICT and guidelines on what ICT can and cannot do in education.

### 3. ICT Strategies and On-line Courses



The first part of this section describes experiences and programmes dealing with professional development and training of teachers, specifically describing implementing objectives, modalities, strategies and lessons learned.

The second part provides links to on-line courses that teachers can join to upgrade their knowledge and skills in using ICT for teaching. The training courses range from basic computing, word processing and spreadsheets to databases, PowerPoint presentations, and the use of e-mail and the Internet. Some offer Web page design and methods for integrating ICT into education.

### 4. Integrating ICT into Teaching Lessons



This site contains links that explain the use of information technology in classroom teaching and learning, curriculum development and collaborative projects. Some sites provide examples of how teachers are incorporating ICT into their classrooms. There are tips and ideas for the step-by-step introduction of technology and even some critical analysis, such as one perspective that current technology integration models are not meeting the goals of integrating technology into education.

### 5. Teaching Ideas, Lessons and Curriculum Materials



In this section there are ready-made lesson plans, activities and curriculum materials for teaching various subjects: arts, health, physical education, mathematics, science, social studies, information technology, geography and more. It also offers lessons and teaching/learning materials dealing with the use of problem solving and life-skills approaches. Most of the lessons and materials are interactive; a few employ multi-media techniques and bring real events into the classroom.

### 6. Educational Software/Courseware



Computer applications for teaching specific subject areas, graphics, learning tools, games, simulations, teacher tools, music, health and fitness, hobbies and databases are available in this section. Also included is software for putting educational materials on-line and printing lessons, handouts, notes and study guides. Some links also review and rate existing software and offer guidelines for conducting one's own evaluation.

### 7. Using Internet Resources



This site provides many links offering criteria for critically evaluating Web pages in terms of authenticity, applicability, latest update, authorship, bias and usability. It also gives a checklist for rating cyber contents and discusses privacy, copyright and legal issues.

### 8. Electronic Collaboration



In this section experiences and success stories in communicating with classrooms and other professionals around the world are present. The focus is on undertaking electronic collaborative learning activities and using electronic networks to facilitate collaborative projects dealing with curriculum/lesson planning and development, classroom instruction, chats and discussion forums and group research. It also analyzes the keys to successful telecomputing and educational electronic networks.

### 9. Bringing Your Classroom On-line



A variety of sites are included that offer guidelines for going on-line, setting up Web-based curriculum materials and courseware and using network software and applications to upload assignments or class papers. Some sites offer instruction in exchanging ideas with fellow teachers or students through e-mail, chats and other forums.

### 10. Evaluation and Assessment Tools and Indicators



These sites address the attitudes of educators and others in the learning environment toward the use of computers. Many of the sites examine the availability of ICT in schools and how they are being used. Some sites present discussions of the relationship between using computers and gains in learning. The site also provides specific tools and instruments for evaluating the effectiveness of ICT in schools.

## New Features Enrich and Expand Adolescent Reproductive and Sexual Health Website



Advocacy materials, youth-friendly health services and lessons on sexuality education are among the several new resources added to UNESCO's Adolescent Reproductive and Sexual Health (ARSH) Website (<http://www.unescobkk.org/ips/arh-web>). The "massive overhaul" of the site packages a wealth of resources, making it a sanctuary of research and full-text information culled from all corners of the Internet.

### Added Resources

Meant to serve as a one-stop information bank, the ARSH site has expanded its rich content on teen sexuality and education programming to make researching adolescent reproductive health handier for policymakers, curriculum developers, advocacy personnel and other educators. More country case studies that describe national experiences in implementing programmes on IEC and advocacy for adolescent reproductive and sexual health are available for Cambodia, China, India, Lao PDR, Maldives, Nepal and Viet Nam. The previous range covered Bangladesh, Iran, Malaysia, Mongolia, Philippines, Sri Lanka and Thailand.

The highlights of these 14 countries' case studies have been synthesized into a new three-part regional profile that gives an overview of the demographic characteristics; profiles of adolescents' knowledge, attitudes and behaviour on sexuality and reproductive health; and trends, problems and challenges.

Ready-made lessons and teaching/learning materials from a variety of sources have been pooled. The information is searchable through such topics as human and sexual development, relationships, sexual behaviour, reproductive health, personal life skills, society and culture.

A newly created section provides a channel to full-text articles found on other Web sites. Topics for searching cover adolescent reproductive policies, laws and rights, gender issues, demographic and reproductive health profile of adolescents, needs assessment, programme approaches, monitoring and

evaluation, adolescent pregnancy prevention, contraceptives for adolescents, advocacy strategies, counselling, communication, school health services, youth-friendly health services, sexuality education programmes and approaches, and youth and STD/HIV/AIDS.

An interactive feature in the News section allows users to submit online their own articles and publications, latest news and events, plus their own Website details and location.

A photo library and an ARSH bibliographic database have been added that focus on IEC and advocacy materials produced in Asia Pacific and Western countries.



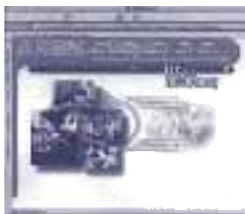
The ARSH site contents are easily accessed through these sections:

• Demographic profile

This section offers demographic profiles of adolescents in Asia and the Pacific at a regional level, addressing such topics as STD and HIV/AIDS incidence; use of family planning services and contraception; factors and problems associated with adolescent reproductive and sexual health; sexual abuse and violence – incidence, causes and consequences; and causes of unhealthy development of adolescents. It also provides regional and country specific demographic profiles, currently for 14 countries in the region, with information on population composition of adolescence, age at marriage, education level, health and nutrition.



• IEC/Advocacy



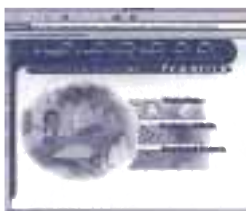
Provided in this section are information and resources on IEC/advocacy policies and programmes; strategies; lessons learned and guidelines; and country experiences. It also offers a discussion of outputs of advocacy programmes, which include formulating policies, passing laws, training personnel, gaining media support and changing audience attitudes and behaviour.

• Education

Of particular interest in this section are the reproductive and sexual health education *Strategies*. These include awareness building and advocacy to gain support from the community; use of socio-cultural research findings to ensure relevance; linking in-school and out-of-school programmes and activities; grounding programmes in social learning and social constructions; highlighting gender equity issues and more male participation; and providing appropriate teacher training to develop effective ARSH educators. Other Education topics are problems, responses and gaps; definitions of adolescent reproductive health and sexual education; elements in incorporating ARSH into curriculum; and curriculum contents.



• Resources



This site offers access to Adolescence Education Newsletter; Adolescents on the Net; Adolescent Reproductive and Sexual Health Catalogues; Communication and Advocacy strategies; Adolescent Reproductive and Sexual Health; and Case Studies on Communication and Advocacy Strategies: Adolescent Reproductive and Sexual Health.

• Links

This section has links to over 60 relevant Web sites including Adolescent Health On-Line (AHOL); AIDS & Sex Education; Global Reproductive Health Forum; Pacific Institute for Women's Health; REPROLINE: Reproductive Health Online; Teenwire; and the United Nations Population Fund.



• News



In this section, users can find the latest news on adolescent reproductive and sexual health issues from countries, organizations and experts in the Asia-Pacific region. Also listed are relevant conferences, forums and workshops. There is also the opportunity for users to post their own information on programmes, activities and events related to adolescent reproductive and sexual health.



## ICT Programme in Education: Access and Reform in Teaching and Learning

If it is used appropriately, information and communication technology (ICT) can have a profound impact on education. Not only can it reshape how knowledge is taught and learned, it also can tremendously increase the body of knowledge available to teachers and students. The growth of ICT provides development agencies a unique opportunity to make major and multi-sectoral contributions to the expansion and reform of education.

**Great expectations are placed on ICT to reach across long distances to people otherwise alienated from learning.** ICT has the capacity to bridge the education divide in a greater leap than any other mode of distance learning. The key is to make this learning resource accessible.

The reality of the teledensity in the Asia-Pacific region threatens the potential of ICT in reducing the disparities in educational quality. Although there has been a rapid deployment of telecommunication infrastructure and facilities within the region, it has been concentrated in specific and even small areas. Worldwide, according to a UNDP report, more than three-quarters of Internet users live in high-income countries among only 14 percent of the world's people.

Certainly China, Singapore, Taiwan, South Korea and Japan have made considerable progress in terms of breadth of access. But the other countries in Asia-Pacific are languishing. For example, at the current rate of development, Bhutan would not achieve the teledensity that Singapore has already until the year 2050. Fewer than two persons in 10,000 Cambodians and Vietnamese use the Internet, while 3,000 out of every 10,000 Singaporeans have been online at some time. Of the more than 300 million people connected to the Web in the world today, only 3.2 million, or just a little more than one percent, live in Southeast Asia.

And within countries, the digital divide is startling. There are 600 million people in the 15 least-connected provinces in China, and among them, 4 million are Internet users. In comparison, Shanghai and Beijing have five million users among the much smaller population of 27 million people. Nearly all of India's 1.4 million Internet connections (1.3 million) are in the five states of Delhi, Karnataka, Maharashtra, Tamil Nadu and Mumbai.

Most people living in Asia and the Pacific do not use the Internet nor have the chance to be part of the information revolution either because of the lack of access to networks or because of the prohibitive cost of access.

This reality challenges UNESCO's mandate of working toward education for all and of playing a major role in guarding against existing disparities being exacerbated by the phenomenal rate of change brought on by ICT that can leave less developed nations and their peoples in an increasingly disadvantageous position.

In response, UNESCO has created a comprehensive ICT programme for education for the Asia-Pacific region that has made access to technology as equal a component as the content aimed at improving the quality and nature of learning. It has been designed to initiate system-wide reforms at the macro level and changes in teaching and learning processes at the micro level – in schools and learning centres.

This programme will focus on how to use ICT through the Internet, CD-ROM technology or community radio to help reduce disparities in both educational access and quality and, ultimately, help bridge the digital divide. The overarching objective is to provide greater access to relevant knowledge, learning experiences and materials that are culturally sensitive and promote gender equality; introduce new educational content both about and through ICT; improve both the professional development of teachers and teaching-learning processes; and link educators and students to break the isolation they often experience.

UNESCO field offices will identify components and activities for support within the programme's framework that are of particular priority to their clusters and countries. The *Education Sector* of UNESCO will provide major technical input related to policy and model development, curriculum development and teacher training. Other sectors of UNESCO will contribute to the multi-sectoral approach, as in the following examples:

*Communication and Information* will identify and put into place innovative, affordable and sustainable methods of, and infrastructure for, connections that are appropriate to individual schools and learning centre models;

*Culture* will assist in analyzing cultural constraints to the wider and more equitable use of ICT in education and will develop culturally relevant content and teaching tools (using local languages and intercultural dialogue for world heritage education and art and music education); and

*Science and Social and Human Sciences* will provide relevant and up-to-date content for dissemination through activities supported by the programme and will identify interactive networks that can be used to disseminate this content.

## UNESCO's ICT programme in education components and activities:

### Component 1: The development of an enabling environment and policy support

The successful use of ICT in education is dependent upon a supportive policy environment framework at the national level. This means policy-makers and administrators as well as practitioners need to be acquainted with the multi-faceted opportunities – and constraints – of integrating ICT into education. ICT's value must go beyond buying a computer and thinking that things will improve. Too often in the Asia-Pacific region computers have been bought en masse for use in education but are sitting on ministry desks and in school cupboards because the plans for their use have not been clearly defined. In addition, groups traditionally excluded from education, for reasons of poverty, gender, minority status, geography, etc., continue to be excluded from the use of ICT.

Component 1 of the UNESCO programme aims to both integrate ICT into educational policies and programmes in a more systematic and cost-effective way and take into consideration the various factors – social, cultural and economic – that both hinder and promote successful use of ICT in improving the teaching-learning process. Technologies being used are meant not to replicate the traditional classroom model but to fundamentally change the instructional paradigm.

#### Component 1 activities

- a) Case studies of national strategies, policies and programmes on ICT use in education – what exists, what works and what doesn't – leading to a comparative synthesis report of major issues;
- b) A series of national and/or sub-regional seminars/workshops to increase awareness and understanding of policy makers on the use of ICT in education and their impact on educational renovation and reform. Participants will develop skills in formulating policies, regulatory frameworks, guidelines and plans for the use of ICT in education;
- c) Provision of technical advice to countries in formulating or upgrading their strategies and policies on ICT use in education (cost implications of ICT development, links between the public and private ICT sectors and means to increase connections to excluded populations); and
- d) Collection and analysis of experiences that highlight innovative strategies and good practices in the planning, management and implementation of ICT use in education programmes and activities.

### Component 2: The modelling of ICT use and materials in schools and community learning centres

A cursory survey has shown that countries that have launched School Nets either at the primary and secondary/tertiary levels include Australia, New Zealand, China, South Korea, Japan, India, Malaysia and Thailand. The rest are far behind. Even within countries, ICT has generally been introduced first to the formal school sector and largely in elite, urban areas while neglecting schools and non-formal education centres usually located in rural areas, a situation that clearly aggravates the digital divide. Selected primary and secondary schools already or somewhat easily equipped with appropriate ICT (Internet and/or CD-ROM based, community radio systems) will be helped to develop locally-relevant education software and teaching/learning materials. In more non-formal education programmes, various kinds of community-based learning centres will be used as model sites and the centres will be empowered through innovative ICT (radio and multi-media approaches, Internet and CD-ROM) to develop locally-relevant materials in local languages, taking into account indigenous cultural information and the wealth of experience existing in development and learning activities. Community participation to produce local content will be supported. Traditional curriculum areas, such as science, history and geography, can be redesigned with a more interactive and critical focus on issues such as environmental sustainability, human rights, conflict resolution and social inclusion. Newer curriculum areas such as life skills and healthy life styles, work-related skills and AIDS education can be woven through ICT-based programmes. In the area of culture, materials related to heritage studies, traditional wisdom and inter-generation skills transfer can also be promoted.

#### Component 2 activities

- a) The development and implementation of models of innovative and appropriate use of ICT in schools and community learning centres, preferably through integrating an ICT component into existing quality improvement projects. Such model projects should include:
  - Planning workshops to bring stakeholders together to formulate the framework, objectives, strategies, work plans, hardware and software required to implement the testing of the model;
  - Ensuring the availability of appropriate, affordable and sustainable methods of ICT connectivity at project sites;
  - The training of teachers and learning centre staff in using ICT for teaching selected subjects and in developing local materials in local languages, sharing information and networking and accessing useful information resources; and
  - The development of interactive, multimedia approaches and ICT-based teaching/learning templates, materials and software for use in selected school subjects and learning centre activities.
- b) The documentation of good practices through case studies in the planning and implementation of ICT use in schools and learning centres;
- c) The development of guidelines/parameters for school and learning centre administrators on how to formulate, manage and monitor an ICT programme in education; and
- d) Organizing face-to-face and electronic (Internet-based) networks of schools and learning centres to share experiences, raise problems, provide solutions and derive lessons learned.



### Component 3: Training and professional development

The teacher is no longer a dispenser of knowledge but rather a proactive facilitator who promotes collaborative knowledge building and guides students to learn in a variety of environments, to navigate within and process a multitude of information resources and to use these resources in solving problems and making decisions on their own. Many countries in the region have realized this need to change and have responded by launching professional development programmes to train teachers in the use of computers. However, most of these training activities are programmes that focus on computer literacy per se and do not enable teachers to return to their classrooms able to use the computers in teaching their assigned subjects.

What teachers require to undertake this role effectively is training not only in computer literacy but also in how to apply educational software in teaching and learning and how to integrate this resource into their classroom activities and school structure. Starting from what teachers already know and feel they need to know, programmes can be developed that train teachers not to use ICT for teaching the same things in the same way but rather to make available new and better ways of teaching, which ICT, with all its interactive and multimedia features and potential for simulation and virtual manipulation, can help happen.

#### Component 3 activities

- a) Support the formulation of national policies to expand and improve the use of ICT by teachers and learning centre facilitators;
- b) Develop course materials on ICT as a subject and as an educational resource in initial teacher/facilitator education and of modules/materials and “best courseware” for use in in-service training;
- c) Conduct a series of national/sub-regional workshops to plan programmes for the training of trainers and curriculum planners concerned with the training of teachers and facilitators in the use of ICT in education;
- d) Develop ICT software and of appropriate mechanisms for large-scale teacher/facilitator training in the use of ICT; and
- e) Establish regional and international partnerships and networking for on-line Web-based teacher education.

**UNESCO’s ICT programme will be coordinated by its Asia and Pacific Regional Bureau for Education in Bangkok in cooperation with its Regional Bureau for Communication and Information in Delhi. The Regional Bureau for Science in Jakarta and the Regional Unit for Social and Human Sciences and the Regional Advisor for Culture, both located in Bangkok, will also contribute to this programme. Collaboration will be sought with partner development agencies, both bilateral and multilateral, that are active in the region. This programme will work in tandem with UNESCO’s New Information and Communication Technologies and Education Programme (UNITE) to use ICT as a lever for educational change and as a means of reaching out beyond the classroom to provide learning opportunities when and wherever people require them throughout their lives.**

## UNESCO's Comprehensive ICT Programme in Education in Asia and the Pacific



The general objective is to contribute to bridging the “digital divide” and promoting “digital inclusion” by:

- Exploring and demonstrating how ICT can be used to reach those excluded from learning and to improve the quality of education for all and
- Developing innovative models of ICT use and of ICT-based teaching education, teaching-learning methods and curriculum/materials development in schools and in other places of learning.



The specific objectives of the core components of the programme are:

1. **To help create an enabling and supportive policy environment** toward increasing ICT connectivity for education and toward the systematic integration of ICT in educational policies and programmes in order to contribute to a system-wide ICT strategy in education and to educational renewal and reform.
2. **To promote the integration of ICT in both formal and non-formal education programmes** in order to increase access to a wide range of relevant information and networks, enhance educational quality and improve learning performance, especially among populations traditionally most excluded from education.
3. **To strengthen the training and professional development of teachers and non-formal education facilitators** in the integration of ICT in education.



In addition, supporting activities will implemented:

4. **To ascertain the current situation of ICT application in the Asia-Pacific region in the field of education**, the factors that limit the dissemination of ICT and increase disparities in their use, the extent of the integration of ICT into national educational sector policies and plans, and the extent to which ICT are used in curriculum development, the training and professional development of teachers and other educators and learning processes.
5. **To create, collect, analyze and provide quick access to knowledge and information** to support policy formulation, management and monitoring, teaching and learning, community outreach, networking and programme implementation through Web-based clearing house services.
6. **To develop and use a set of performance indicators** that can measure the outcomes of ICT use in education and provide a basis for policy planning and programme improvements.



In all of the above activities, which deal with policies, content and methods, training, and impact assessment, special attention will be paid to how ICT can promote the greater participation and achievement of girls and women in education.



## Online Teaching and Learning: A Tremendous Dividend or Divide? First UNESCO Conference Draws Hundreds to Discuss the Issue



Human capital, minted by education and training, is surpassing financial and material as key resources in the information-based economies that are rapidly gaining momentum in this century, asserted Dr. Zhou Nanzhou, Director, a.i, UNESCO Principal Regional Office for Asia and the Pacific, in his welcome address to the huge crowd of participants at UNESCO's first international conference on learning and teaching online.



Mr. Zhou spoke of the "unprecedented and unpredicted" advances of information and communication technologies "into all realms of human life", that have also forever changed the field of education. Not only are the teaching styles, learning environments, organization, content and methods of delivery dramatically affected, so are the students. "A new generation is 'growing digital on the Net' whose learning styles, needs and interests are so different from those of all previous generations," he explained at the outset of the three day conference, which took place in Guangzhou, China in January 2001.



But the use of ICT in education, cautioned Mr. Zhou, brings with it possible risks and pitfalls that pose "severe challenges" that cannot be ignored: the possible widening of the "digital divide" between information-rich and information-poor countries as well as within countries; the possible enlarging of the knowledge gap between those who have access to the Internet and those who don't; and ensuring quality as well as effective monitoring and evaluating.



Those challenges, as well as ICT opportunities, was the motivation for the conference, hosted by South China Normal University, in which 400 educators, administrators and policy makers participated. The proceedings aimed to:

- Facilitate cross-national dialogue on the multi-dimensional challenges of information technology on education systems and debate on the issues and trends in online teaching and learning;
- Exchange successful innovative practices and share research findings as regards the use of ICT in education in general and teaching-learning online in particular;
- Explore roles of universities in networks of online teaching-learning and their partnership with policy makers, schools and ICT business communities; and
- Explore ways and means of exchange and cooperation in online teaching and learning and strengthen networking for improved use of ICT in education at local, national, regional and international levels.



Keynote speaker, Prof. Gajaraj Dhanarajan, President and Chief Executive of the Commonwealth of Learning, based in Vancouver, Canada, spoke of “Online Learning – A Social Good or Another Social Divide,” in which he touched upon various aspects of online learning, the driving forces, its potential and tough challenges.

The conference programme included three plenary sessions that addressed:

- The ICT network culture and its impact on society and the quality of life;
- Curriculum, learning-teaching and evaluation in the network age; and
- The changing status, structures and functions of universities in the network age.

Each of the sessions was directed by an international expert: Dr. Stone Wiske from Harvard University in the United States; Dr. Ann Floyd from Open University in the United Kingdom; and Prof. Michael Osborne from La Trobe University in Australia.

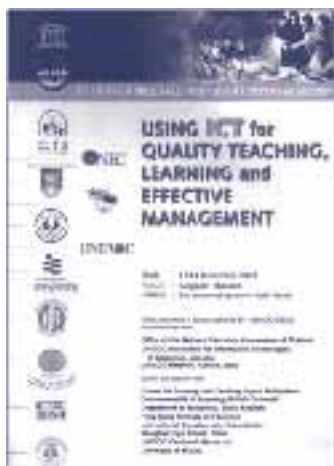
Following the plenary sessions, 100 papers by participants from 22 countries were presented. Countries represented included Israel, Kuwait, Sweden, Norway, Pakistan, Bangladesh, Malaysia, Indonesia, Hong Kong, India, Japan, Australia, Estonia, Ireland, the United States and China.

Before the conference concluded, a set of policy recommendations to governments, educational institutions and IT industries were produced by the participants. Also, plans of action to follow-up the conference discussions were developed.

The organizers for the conference believe the three-day event produced a strengthened network of partners between government and non-government organizations, between education and business and between public and private sectors for harnessing the great potential of ICT in the interest of education.

## UNESCO-ACEID International Conference on Education

11-14 December 2001



ICT is the most potent force in shaping learning today. It already profoundly affects the education environment in terms of content, methods of teaching, methods of learning and the management of education systems. It has forever changed the delivery of knowledge, in some ways even the shape of knowledge and done so positively. Now, more than ever, more people have access to more ideas and more information. ICT, which itself is continually changing, will have even greater influence in the future of education.

To explore the innovating potential of information and communication technologies for quality teaching, learning and effective education management, UNESCO-ACEID is inviting education ministers, senior policy makers, administrators, academics, school principals, teachers, curriculum specialists, education consultants, parents and students to join its seventh international conference on education.

This annual international gathering, "Using ICT for Quality Teaching, Learning and Effective Management", will look at how ICT is shaping quality in content, how a wide diversity of education provisions could be more prudently managed through ICT and offer best practices in using ICT. And most usefully, it hopes to demonstrate what can be done with limited access to the new technologies.

This year's highlight is a Special Interest Group for Policy Makers. The roundtable session will focus on policies for integrating ICT into education and is being organized by the UNESCO Institute for Information Technologies in Education, Moscow.

Other planned presentations and themes include Using ICT for Quality in the Curriculum and in the Classroom, Using ICT for Teacher Education and Training, and Using ICT for Effective Management: Innovative Approaches and Practices. The four-day event will also include demonstrations and workshops on achieving quality teaching, learning and effective management with ICT.

Another Conference feature is the ICT in Education Exhibition Fair. It is open to any ICT-related company or institution that would like to introduce itself to the region and enhance visibility, especially among educators. A large, secure convention hall adjacent to the Conference Plenary Hall is being dedicated to the fair. Product and service demonstrations are welcomed.

Participants are also invited to make a presentation to the Conference either in concurrent paper sessions or by way of a poster/display representation. An application form is available upon request.

Hundreds of participants each year take part in the UNESCO-ACEID's education conference; in the past six years, more than 2,500 people from more than 40 countries have attended. This year the international conference is taking place at the Imperial Queen's Park Hotel, Bangkok, Thailand, 11-14 December 2001.

The conference is being organized by UNESCO-ACEID in partnership with Office of the National Education Commission of Thailand; UNESCO Institution for Information Technologies in Education, Moscow; UNESCO-UNEVOC Centre, Bonn; and in association with Center for Learning and Teaching Styles, Philippines; Commonwealth of Learning, British Columbia; Department of Education, South Australia; Hong Kong Institute of Education; International Baccalaureate Organization; Shanghai High School, China; UNESCO Centre of Macau; and University of Macau.

For more information about registration or exhibiting in the ICT in Education Exhibition Fair, contact: [aceidconf@unesco-proap.org](mailto:aceidconf@unesco-proap.org)



## ACEID Virtual University: Greater Mekong Sub-region to go Digital

### Distance learning is coming closer to home.

Delegates from six countries in the Greater Mekong Sub-region (GMS) agreed in August that a Virtual University can help to conquer the widening digital divides in this region and take advantage of a sharper focus that has recently emerged on education demands within the GMS.



The sub-regional workshop at Sukhothai Thammathirat Open University (STOU) in Nanthaburi, Thailand, 1-4 August 2001, was organized by UNESCO PROAP, SEAMEO RIHED and STOU. During the course of this workshop, the GMS delegates and observers established that the Virtual University should provide

programmes in three specific areas: tourism, Mekong studies and information technology. The emphasis of the "university" would be to make all materials useful and practical to students in the region. The feasibility study of a virtual university in the region was approved.

Speaking to the delegates at the opening of the workshop, Sheldon Schaffer, Director, Asia and Pacific Regional Bureau of Education, UNESCO Bangkok, emphasized the demand for more and better higher education in GMS countries in order to face the challenges of the widening digital divide in this region. He noted, distance education, open learning, and learning and teaching online, including the format of virtual universities, "are regarded as promising avenues to pursue". But such programmes, he added, "should always serve to reduce disparities in access and quality, not increase them."

Though virtual learning is a new concept to some developing countries, all 13 delegates strongly acknowledged their conviction to push forward with the project. They discussed possible delivery models covering broadband ISPs, satellite ISPs and the Internet. Partnership building as a major strategy toward the establishment of the GMS Virtual University was adopted and some partners expressed the willingness to provide assistance, such as provision of training in multi-media technology.

Assistant Professor Dr. Somchin Suntavaruk, Vice-president for Planning and Foreign Relations of STOU, offered a model of a network for the GMS Virtual University in which education institutions located in various countries in the sub-region would work together as participants. In this network, STOU would act as a focal point to which participating institutions could send course materials for broadcast via satellite.

In his keynote address to the workshop participants, Professor Wang Yibing, Programme Specialist in Higher and Distance Education, UNESCO PROAP, explained that the widening digital divide in GMS countries, the choice of strategies for higher education and the universalization of higher learning has dramatically increased the need for a GMS Virtual University.

It was agreed by the delegates that the next step of the project would be an expert working group meeting in early December to discuss putting a programme addressing GMS tourism online.





## Make IT Matter: APPEAL Software Development Project Expands Literacy Skills



Though technology awareness in the Asia-Pacific region is gaining ground, many countries are not yet sufficiently benefiting from the possibilities. To respond to the literacy needs of the region, UNESCO APPEAL is working with software developers to create a prototype program that can be used in the training of functional literacy and post-literacy education that also involves applying local knowledge.

This software development project makes use of the Asia-Pacific region's growing technology awareness to explore using ICT mediums to produce, arrange, share and exchange information and knowledge locally and globally. It targets "neo-literates," defined as youths and adults who have completed basic literacy training and who need to strengthen their functional literacy skills through post-literacy training programmes. Ultimately, the software package can be adapted for use in all countries in the region.

It is one of the massive potentials being explored in how to use computers not only to broaden literacy training, but to respond to expanding definitions of literacy. Several countries in the Asia-Pacific region are currently shifting from a focus on basic literacy to a focus on functional literacy. This would provide community members with skills that go beyond basic reading, writing and numeracy and are applicable immediately.

To achieve these goals, the use of computers and training on computer skills will become

part and parcel of the post-literacy programme. Especially as computers are perceived as being more available in both urban and rural communities, their use in post-literacy education and in life-learning environments is crucial. The turning key to the effectiveness of computers as a literacy tool is the software. User-friendly software, say advocates, can teach anyone at any literacy level how to get started on a computer.

And once begun, the computer can take adult students on an innovative path of learning. Just as children find computer games immensely engaging, adults can use the computer in an interactive way to literacy skills. It can give feedback to the student through the text, pictures and sound that makes the learning process more fun and varied than using traditional methods from textbooks, writing pads and pencils. And computer software is easy and inexpensive to mass produce.

Studies have been conducted in India, Malaysia, the Philippines and Thailand, which have well developed non-formal education systems, to assess what software is already being used in the areas of literacy and what learning needs are not being addressed.

A working group involving representatives from the four surveyed countries, software developers and UNESCO, through the Japanese Funds in Trust, are working to produce a draft version of software that can be pilot tested in this region.

## Community Learning Centres Now Employ ICT to Promote and Facilitate Activities

Teaching people to read is like teaching someone to fish...it's food for a lifetime. In the "knowledge century," teaching computer literacy is like giving someone a fishing pole that will never break. It, too, is a tool for a lifetime.



With UNESCO's technical and financial assistance, several of the Community Learning Centres (CLCs) in the region are offering more relevant activities to promote job creation and empower women and children through literacy projects and computer skills courses.



In Malaysia's Kelantan State, the CLC is named Cyber Putra and is run by an NGO, the Kelantan

Poverty Allevation Foundation. Cyber Putra aims to help people living under the poverty line acquire skills to find jobs. Cyber Putra also provides training to poor community members in computer applications for income-generation.

The Institute for Rural Advancement, another organization based in Malaysia, is developing information technology literacy teaching-learning materials. The manual along with a video and a CD-ROM will be tested at CLCs throughout Sarawak.

In Pakistan, BUNYAD, an NGO also, is working to promote literacy for rural women and children in the low-income areas of Punjab. The NGO has opened nine Basic Education Resource Training Initiatives, known as BERTIs, which provide education and information for development in rural areas.

As a resource and training centre, each BERTI serves 40 to 50 smaller CLCs where non-formal primary education is available for children and

literacy classes and skills training is provided for women. Each BERTI contains Internet access to enable community members to receive world news and information to help them upgrade their knowledge and enhance community development ideas.

BERTIs receive support and assistance from several government organizations, especially those interested in agricultural and community development. UNICEF also supports large-scale integrated farming and health development projects that will be implemented by the CLCs.

Uzbekistan, with a highly literate population (99%), is looking to expand CLC projects, which is a new initiative for the Central Asian country. CLCs that have recently been created concentrate on improving access to information through the Internet and on parent/teaching training in pre-school education. Computer courses, which are popular among youth in Uzbekistan, are available in most of the CLCs. The learning centres also use computers for designing and printing of newsletters and other publications ordered by various organizations, thereby generating income to support the CLCs.

In Thailand, UNESCO-APPEAL has developed a project designed to train local leaders in compiling a database to assist in community planning and management. The main activities conducted by the CLCs include life-long learning programmes, skills training and provision of news and information through the Internet. Community members are being trained to assist with compiling the database. Products made in the community are sold on Web sites, which provide a marketing solution for income-generating projects.

The CLC project in Thailand is being supported by UNDP and the Department of Non-Formal Education, the Department of Community Development, the Office of the Prime Minister and the Rajabhat Institute.



## Helping Non-Formal Education Bear More Fruit: Mango Reforms NFE Monitoring Strategies

Non-formal education programmes are prolific in every Asia-Pacific country and in a multitude of communities. They are a lifeline to thousands of people, especially women and girls, who for a variety of reasons are not engaged in traditional learning environments. It is important, therefore, to ensure the best non-formal education (NFE) opportunities. It is equally as important to coordinate and monitor these programmes to understand where there are successes and where there can be improvements, and to provide a resource for information sharing.

The UNESCO Asia-Pacific Programme of Education for All (APPEAL), with financial assistance from the Government of Japan, has launched an initiative to reform the strategies for non-formal education (NFE) in the region and to develop monitoring and evaluation tools to make the provision of NFE more effective.

One aspect of the project is the development of computer software to create a database that will monitor non-formal learning activities at the community level as well as at district and national levels. The Map-based Analysis for Non-formal Education Goals and Outputs, or MANGO, aims to

- Provide a more uniform system for tracking progress and irregularities of NFE programmes;
- Provide an outlet for the extensive data collected through NFE centres;
- Expand the flow of information from top to bottom and vice-versa; and
- Track outputs and successes.

Guidelines for the project development were established at a regional planning meeting in August in Bangkok. The MANGO software is expected to be available in 2002.

MANGO will provide maps of national, provincial and community profile information; report documents, diaries and stories; statistics, indicators and graphs; and audio-visual elements including photos and videos. The MANGO Handbook that will accompany the software will include the socio-economic and education profile of villages and communities, introductory information for students and facilitators, information for managing a NFE centre and tutelage for skills and enterprise development and for library facilities and services.

For both information collection and usage, the MANGO project will target facilitators and students at the learning centre level, leaders and other stakeholders at the community level, and project managers and supervisors at the district level.

MANGO data is also to be of considerable value to civil society and all NFE stakeholders for advocacy and awareness of non-formal education and to policy-makers for planning and monitoring NFE programmes and activities. All MANGO data will be available on the Asia-Pacific Literacy Database Website.

### The specific objectives of MANGO are to:

- 1) Develop a database system for monitoring literacy and continuing education projects at the community and district project level;
- 2) Devise a model for using ICT to create and maintain the database for monitoring the NFE activities;
- 3) Support adaptation of the database system in the Member States;
- 4) Support the dissemination of the MANGO system in the Member States;
- 5) Build the national capacity of the NFE personnel on the use of MANGO; and
- 6) Strengthen literacy learning centre and community learning centre regional networks.



## Learning to Surf Social Sciences Resources



Fifteen teachers formed the first wave in a unique plan to bring more classrooms into what is quickly becoming a useful social sciences tool: the Asia-Pacific Social Sciences Schools Network (APSSNET).

The teachers, selected from the 171 schools that now comprise the APSSNET, took part in a workshop to introduce ICT use in schools as well as the Computer-Assisted Instruction (CAI) on Social Sciences issues. The 15 participants from India, New Zealand, Uzbekistan, Pakistan, Philippines and Thailand will now run workshops in their own countries for other teachers to learn how to use the technology and utilize the huge amount of resources available through the APSSNET.

During the four-day training workshop in Bangkok, the teachers practiced and developed lesson plans and teaching aids by using software of CAI. They also were provided with and focused on three manuals containing introductory information about the Internet, video conferencing, steps in using the RUSHSAP chat room, instruction in creating Web pages using Hyper Text Make Language (HTML), quick steps to Microsoft FrontPage software, Outlook Express, PowerPoint Basic, placing photos and clip art and making lively slide shows. All this material can be accessed from the APSSNET Website: <http://apssnet.ait.ac.th/rushsap.htm>.

### About APSSNET

Nearly two years old, APSSNET is an education venture between UNESCO's Regional Unit for Social and Human Sciences in Asia and the Pacific (RUSHSAP) and the Suankularbittayalai Nonthaburi secondary school in Thailand, with support from Thailand's National Electronic and Computer Technology Centre (NECTEC).

Its member schools are located in 19 countries and work toward UNESCO's objective of spreading ideas and bringing people together to promote and reinforce collaboration among members of the Associate Schools Project.

Other APSSNET activities to encourage interactive participation of teachers and students to use technology in and for education include an essay contest dealing with social science issues and a Webpage design contest. APSSNET also has video conferencing capabilities for chatting.



## Preparation for a Virtual University



An ambitious cross-cutting project by UNESCO PROAP envisions the building of a virtual university in the field of social science and involving six academic institutions in the Asia-Pacific region.

The project, just forming, has pulled together a team from UNESCO's many sectors: Communication and Information (CI), Education (ACEID), Social and Human Sciences (SHS) and Information Programmes and Services (IPS).

The idea of the virtual university is based on UNESCO's belief that the best way to reach long-term solutions for economic problems of people is to raise their educational levels, particularly for the low socio-economic groups. Evidence has shown that the impact of a country's education level on economic development is more pronounced now with the influence of the information era and global markets.

Learning needs are changing. People want an education to be individualized and flexible, suited to their specific needs; ICT-based learning caters to those needs. And the ICT teaching aids make lessons student-centered and interactive and innovative in ways traditional methods never could. A virtual university (VU) lets people with those desires as well as those who cannot attend a regular academic institution acquire the knowledge it takes to contribute to and partake of the information age.

In the span of two years, the UNESCO project aims to:

- 1) Establish a consortium of six universities in Asia and the Pacific;
- 2) Identify the need in developing a VU;
- 3) Identify and develop course material for the pilot project;
- 4) Set up a network among the universities;
- 5) Implement the pilot project;
- 6) Develop a long-term action plan for the VU, which is based on the results of the pilot project;
- 7) Develop guidelines for the first VU;
- 8) Establish a joint VU in Asia and the Pacific; and
- 9) Launch the VU.

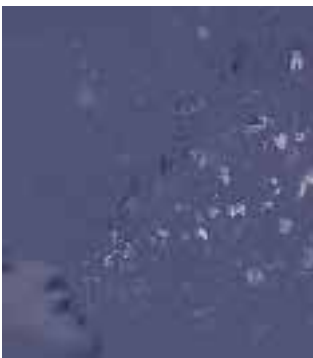
The needs assessment will be completed by the end of November 2001 and the virtual university will be launched in 2002.

## ICT is a Major Catalyst for Change: Information for All in Asia and the Pacific



*Information and communication technology is an “enabler” of revolutionary proportions. It can enable the democratization of education, of knowledge, of opportunity to all people, no matter how urban or how remotely situated.*

UNESCO has recognized ICT as a powerful tool to enable it to live up to its Constitutional mandates of “promoting the free flow of ideas” and “conserving and protecting the world’s knowledge by maintaining, increasing and diffusing knowledge.”



One of UNESCO’s priorities is to narrow the gap between the information rich and the information poor. This is being addressed on international, regional and country specific levels with a heavy emphasis on creating partnerships between public and private sectors as well as developing liaisons of programmes within and outside the UN family. Not only is there a need for expanded exchange of information, but innovative liaisons can benefit the funding or introduction of other incentives for knowledge creation. UNESCO’s Information for All Programme provides a framework for those partnerships and cooperation.



Being a region that is widely divergent in terms of economic development, geopolitical importance, history, culture and ethnicity, the ICT capacities within each Asia and Pacific country are at different levels of development, although there is much attention currently given to building information infrastructure throughout the region. Cooperation among organizations and the exchange of experiences is crucial for the continued expansion of those capabilities.



The Information for All Programme has divided its framework for the Asia and Pacific region into five areas, which also recognize that priorities, strategies and activities will need to vary depending on the local economic, social and cultural situation.

### Area 1: Development of international, regional and national information policies

Among the strategies to achieve that objective is establishing region-wide standards, methods and procedures and encouraging communication and mutual assistance, including the sharing of knowledge, skills, services, resources and experiences among members.

Also, there is emphasis on creating awareness among policy makers and ensuring that public authorities demonstrate leadership in making government and official information (subject to national laws) available electronically to their citizens, reflecting their own culture, language and heritage.

The IFA Programme intends to facilitate a Standing Committee on Cyberlaw that is Asia-Pacific specific, and will aim for the production and dissemination of information to each country. It also encourages collaboration with civil society groups, including libraries and information associations, to develop appropriate standards and systems for the digitization and availability of library collections to the public. And the IFA Programme intends to create a clearing house of information on best practices by facilitating surveys in selected countries to obtain comparative data on information policies.

UNESCO will also provide awareness seminars on ICT and information policy (IP) for government officials and policymakers.

### Area 2: Development of human resources and capabilities for the information age

To provide wider access to information, countries need to educate trainers in the use of the Internet and that most likely will involve more development of distance learning programmes. Within the Asia-Pacific region, that should not necessarily imply a rush to virtual media solely, but rather, virtual media should be complementary to local preferences. Pilot projects are needed to analyze and recommend ICT applications in rural areas.



Pilot projects are also needed to demonstrate the social and economic impact of ICT services in rural areas, such as multi-purpose community telecentres (MCTs).

IFA will look to create more networks among library and information schools to discuss curriculum development, ICT policies, distance learning, skills upgrading and lifelong learning. Also, it will promote greater exchange of teachers, training methods and curriculum for ICT among countries.

### Area 3: Strengthening institutions as gateways to information

Keeping in step and maintaining a balance between physical and digital services with technology-driven environments are major challenges for the Asia and Pacific region.

The IFA Programme recognizes the need for a mechanism within established networks for the exchange of experience either by best practices or by providing short awareness seminars locally, or both. There is also a need for a regional portal to information institutions. On a regional basis, there is also a plan to create a pilot project that will aim to keep abreast of ICT developments and increase the collection of multimedia materials by sustaining and adding CD-ROM databases and electronic publications.

### Area 4: Development of information processing management tools and systems

Few governments in the Asia and Pacific region have developed roadmaps for ongoing ICT development and management. The IFA Programme proposes to study the regional needs and capacities for developing and

managing ICT systems. And to promote more effective institutional capabilities with processing information. The IFA Programme sees a need to create awareness among institutions that provide information services about new software releases, particularly the program developed by UNESCO for the validation, manipulation and statistical analysis of numerical data.

### Area 5: Information technology for education, science, culture and communication

There is clearly a need to get governments to recognize that ICT is about more than technology infrastructure. Governments need a "vision" that promotes cross-organization developments in the use of information technology.

The Information for All Programme is guided in its planning and implementation by an Inter-governmental Council comprised of 24 Member States of UNESCO.

**Community Multimedia Centres (CMCs)** rely on local people to combine local media, especially radio, and provide information in local languages to cater to the social, economic and cultural needs of that area. The centre can integrate radio, ICTs and public libraries into a single facility, or they can be linked into networks.

CMCs enable individuals to become recognized actors in the process of developing knowledge. Even the illiterate can participate, actively identifying the type of information needed and responding to information gathered from "radio-browsing" programmes where the community radio presenter searches the Internet on behalf of the listeners. Local people can develop their own community

database, sound archive and library, building up a store of local and external information for education, informational and developmental requirements. The more a community is in charge of its own access to and exchange of information, the more meaningful the knowledge acquired or generated will be to that community.

**Distance Education Systems** have been gaining widespread popularity and Open Universities are now prime avenues for imparting education. The Virtual University is the next generation of distance education. The new technologies and methodologies in teaching and learning allow people in geographically disadvantaged areas to have more of a fair chance to benefit from education and knowledge.

**Education Channels** are an example of using existing services to complement virtual technology. In India, for example, the DD-Gyan Darshan education channel is a satellite-based channel on C-ban with free-to-air programming telecast during a 16-hour period each day. Eight of those hours present original programming and the remainder repeated telecasts. The objective is to make the channel interesting, useful and relevant to the "niche" audience as well as various potential audiences. The telecast mix is a blend of core curriculum-based programmes in the areas of primary, secondary, higher, open and distance education, extension, technical and vocational education along with general programmes in areas of health, hygiene, arts, environment conservation, culture and science popularization.

To learn more about Unesco's Information for All Programme visit:  
<http://www.unesco.org/webworld/itap>

## Merging Programmes and Purposes: Working Group Decides to Consolidate UNESCO's Three Information Networks

In view of the changes to UNESCO and the Information For All (IFA) Programme, a Working Group meeting was organized in Viet Nam, March 2001, to discuss the future of the Regional Network for the Exchange of Information and Experiences in Science and Technology in Asia and the Pacific (ASTINFO).

Now that ASTINFO, RINSEP and RINSCA are being considered together under UNESCO/CI/INF, the Working Group agreed that merging the three networks into one network was an ideal strategy. After extensive discussions, the participants also agreed that ASTINFO's current objectives should shift to more generic objectives, with detailed sub-strategies; that the former networks would be modified and that a new name will be created for the new network. (RINSEAP's objectives aim to develop, establish and improve informatics, while ASTINFO places a strong focus on content.)

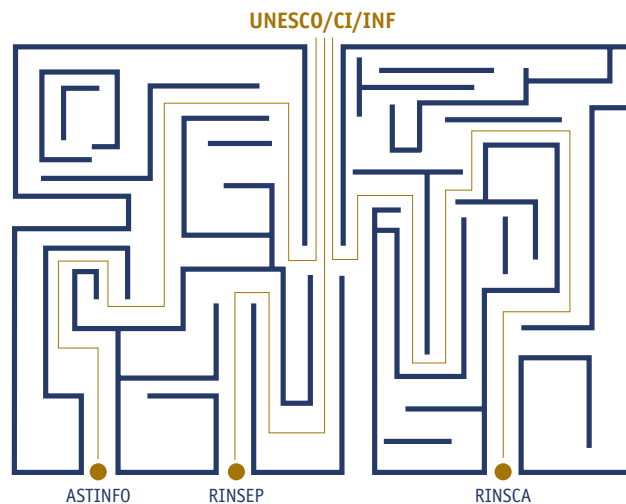
The new ASTINFO objectives, each linked to the IFA Main Programme area, are:

- 1) Development of international, regional and national information policies;
- 2) Development of human resources and capabilities for the information age;
- 3) Strengthening institutions as gateways for information access;
- 4) Development of information processing and management tools and systems; and
- 5) Information technology for education, science, culture and communications.

In each of those areas, there are new sub-objectives and strategies. Some of those strategies are to:

- a) Encourage Member States to conduct research on policies, plans, legislation and laws; to conduct assessment studies concerning ICT developments and applications and make recommendations for improvements;
- b) Encourage Member States to develop an awareness of ICT and the role of information in national development by legislators and other top government policy and decision-makers;
- c) Develop policies and strategies to overcome the barriers to the access to information by the general public;
- d) Promote the education of subject specialists in modern ICT trends and new information resources; encourage and empower them to use the new tools and resources to initiate knowledge management exercises;
- e) Encourage debate on the legal and ethical issues concerning electronic information, such as copyright, geographic indications and community rights;
- f) Strengthen research on multi-lingual content development;
- g) Re-define and expand the role of existing information institutions including libraries, archives and community centres;
- h) Promote the development of virtual libraries, archives and other information institutions;
- i) Encourage the Member States to enhance ICT literacy among the public; and
- j) Promote ICT-based learning opportunities for all.

The Working Group decided that a joint meeting of ASTINFO, RINSEAP and RINSCA representatives will take place toward the end of 2001, after the UNESCO General Conference.





## What are Portals?



Fluttering in the World Wide Web wind are some 2.5 to 4 billion pages of information, or so it's estimated. Another seven million pages are said to be added to the flurry every day. That's a lot of detail to sort through when researching a particular topic. And while there are several search engines available to find Websites, it is estimated that even the best of these tools only manage to contact about 1.4 billion of the total pages available. And most search engines can't penetrate troves of relevant information, such as databases, academic papers, videos, audio clips and other multimedia content.

No matter how doggedly or cleverly you look, a huge amount of information on the Web is simply not findable with a general-purpose search engine.

So, what do you do if you are an organization with specific Websites of information that you want to make available to a certain group of people, or community?

The most efficient delivery of specific-topic material would be to cut through some of the searching and pull together, or collect, a variety of Websites and other online resources into one place. In effect, you create a virtual community centre where people interested in the same things come together to communicate, either one-way in terms of

retrieving information or two-ways in the form of chats, forums or other interactive programs.

This community centre is what is known as a portal, or a vertical portal to be exact. Search engines are portals as well but are classified as horizontal portals because they seek out general interest data. They provide much needed structure to the Web. Their drawback is that they can't keep up with every possible topic.

A vertical portal narrows the content down to items that relate to a specific topic. It makes searching for an area of information immensely easier than a general portal.

***A portal offers a valuable time-saving service***

Vertical portals are typically run by people with an interest in a particular subject. Many of the existing portals are built on the status of renowned publishers, universities and other organizations. For example, UNESCO, which already maintains a few small portal sites in addition to many Websites and communication facilities, is looking to create a portal on education and would develop a portal site for users to locate a wide array of research material, information, services, etc., related to education to improve the effectiveness and efficiency of its work and the work of its counterparts. The people behind the scenes

creating the site proactively seek out the community and content of that subject and organize it with a level of care and skill that general portals can't match.

A portal is more commonly defined as a "doorway" or the "port of entry" to a world of information that is programmed to hone in on a certain topic. It is a Website as well, but it differs from a regular Website in that it is like a catalogue, or directory, of Websites. Portal is essentially a term to describe a Website that is designed to be the first place people turn to when using the Web.

A portal is a system of integrated programmes. Typically a portal includes five core features that cover Web searching, news, reference tools, access to online shopping venues and some communications capabilities. There is no single model for a portal and the programming and scripts can be customized – the relevancy of the services and the content is determined by the site owner. Users can expand the vertical site by suggesting links and contributing their own documents, papers, photos, etc. Portals can set themselves up to freely distribute information or they can charge access fees.

The portal can carry a list of say, 40,000 URLs, or Web addresses. Its communications capabilities include free e-mail, chats and forums. (Forums allow the site owner to post topics, and even assign specific moderators to specific topics.)

It can create its own shopping carts and carry classified ads. Indeed, as communities around portal sites are growing, the opportunity for income generating through the site is expanding.

A customized portal can be programmed to calculate the visitors to and

searches made on that specific portal site. Most importantly, a portal can have its own search engine, which serves as a kind of database that seeks out only those Websites it has been instructed to locate. And/or it can be linked to popular search engines, such as Google, AltaVista, Ask Jeeves, iLOR, Webcrawler, Yahoo, etc.

Portals can even be available in multiple languages and do not offer merely translations of the original material, but can offer specific content of relevance to a certain language-speaking group of users.

These services are integrated and the purpose is to provide convenience and a sense of community to the user. A portal is intended to help make the user feel more comfortable about beginning the searching journey rather than feeling overwhelmed about having to go all over the Internet to pick up bits of information, like pieces to a puzzle.

Portals are not new to the Internet, though they have grown more sophisticated as the Web has developed. The proliferation of portals represents the trend toward the formation of Web communities around professional and personal interests.

Many of the services offered currently through many Internet portals rely on advanced technologies. Over the past five years, as an UNESCO feasibility study for the development of an education portal has pointed out, Internet technology has developed in a way that makes it possible to provide flexible content in a recognizable style using XML, ASP, ColdFusion and similar technologies. In combination with Java applets, JavaScript and HTML, it is now possible to make highly interactive Websites. Flash, Shockwave and QuickTime technology make advanced

animated graphics in combination with sounds accessible to many Web developers. Also, encryption technology has improved to a degree that financial transactions can be carried out within fairly secure conditions.

This kind of technical grandeur, as the feasibility study explains, is expensive in terms of keeping up with the technological innovations and expansion. Plus, developing and maintaining an Internet portal requires a significant number of people to handle the labour-intensive and often highly skilled tasks, such as system development, system maintenance (technical and functional), collecting and screening potential content and other editorial activities. Keeping a portal up-to-date is key to its success.

Portal sites are considered the future of the Web because of the distinctive content they provide, the added interactivity they give the visitor and the advantages a topic-specific portal has over Web pages when it comes to search engines. And they are preferred because of the control over content and services that having a centralized organization running the portal provides.

**The proliferation of portals represents the trend toward the formation of Web communities around professional and personal interests.**



## PORTAL EXAMPLES

### *A general (horizontal) portal:*

**Yahoo!** One of the first major Web directories, Yahoo! maintains a large editorial staff that is continually checking and categorizing sites and manually building a database that contains thousands of sites. The Yahoo! network allows users to read news, follow stocks and financial information, shop, participate in auctions, make travel plans, share photographs, chat with people, send e-mails, publish Websites including the venues for selling products online, join online communities, use the Internet to store personal address books and calendars, which can be accessible from anywhere, and more.

### *A customized general portal:*

**Excite** Users can personalize the appearance and the contents of the Excite portal, tailoring it to suit individual interests and preferences, though only to a certain extent. The user can personalize the page with favourite colours, news themes that are of interest, horoscopes, local weather forecasts, cartoons and other graphics.

### *A general portal that looks vertical:*

**Africa Online** This portal is oriented specifically to a geographical region, in this case, Africa. Although the site offers the option to search the Internet by using Lycos search engine, its main focus is on providing African news and relevant content in the areas of business and finance, computers, travel, arts, education, health, music, etc. Special sections are included for women and children.

### *A specific general portal:*

**Britannica.com** This is a unique twist in which a renowned publisher of a popular encyclopaedia moved from being a content provider into a portal site owner. Not only does the Britannica site offer its complete editorial content, it makes available articles from more than 70 of the world's top magazines, current events coverage, a guide to what it thinks are the Web's best sites, a related-books database and the capacity to order books online through Barnes & Noble.

### *A variety of vertical portals:*

**DevMedia: Media for Development and Democracy** This portal focuses on ways of improving people's access to media to encourage the sharing of ideas, voices and knowledge, both locally and globally. DevMedia began in 1994 as an e-mail listserve to facilitate the exchange of information and news about how communication tools can promote development and democracy. The site now contains a large number of links to relevant sites, a collection of documents including opinion pieces and report describing field experiences, upcoming events and e-mail discussion lists. The information is available in English, French and Spanish and each of those three portals is geared toward that specific language community. Users can suggest new links, upload their documents and contribute in other ways to the online community.

**Literacy Online** This is a gateway to electronic resources and tools for the international adult literacy communities. The few hundred documents on this site are freely available and there is a special section in Spanish.

## UNESCO Portals

[ICT for Teacher Training  
E-Learning  
Science and Education  
Development Gateway  
UNESCO Libraries Portal  
UNESCO Archives Portal  
StudyAbroad.com  
United Nations POPIN](#)

Visit:  
<http://www.unesco/ips/portal.htm>

**L'Agence Education Emplo  
Formation** This French site is an example of an online information broker. It provides services only to paying users, mostly organizations that pay site licenses, allowing access for all members of that organization. The site involves all aspects of curriculum reform, employment, education and new media and has an international focus: reporters are providing inputs to this site from locations around the world.

**World Links for Development (WorLD)** This site was created as a tool in the WorLD project, which is geared toward expanding knowledge access through ICT for secondary school students and teachers around the world. The site describes the project, keeps track of its progress, provides links to several national Websites established by country teams and local schools and provides discussion lists for students, teachers and country coordinators. The portal is different from other vertical portals in that it explicitly includes external Websites in its navigation structure. The establishment and maintenance of those Websites is the responsibility of respective country teams where schools participate or partner organizations provide resources for the participating schools.

**NOTE:** Much of the information for this article and the portal examples are from the UNESCO Educational Portal – Feasibility Study (Final Draft).

# IT and Education for the Poorest of the Poor: Constraints, Possibilities and Principles

Daniel A. Wagner

## Hopeless?

Long before the term “Digital Divide” became a common term to describe gaps between the rich and poor in the effective access and use of information technology (IT), most policy makers, researchers and practitioners could at least agree on one thing: Reaching the poorest of the poor was going to be the most difficult of challenges.

Even reaching the so-called ‘ordinary’ poor would entail challenges of electrical power, telecommunications connectivity, human resources infrastructure, and the like. Reaching the ‘poorest’ would be even more difficult due to wider gaps in those parameters just mentioned (DotForce, 2001). But, in addition, there would be the parameter of limitations in the human skill competencies of this target population (OECD/Statistics Canada, 1997). By human competencies, we refer here to a broad range of skills that often fall into the general catch-all term ‘literacy,’ but in fact include a wide variety of discrete skills ranging from reading and math, linguistic and multi-linguistic fluency, content knowledge in specific domains, eye-hand coordination, typing (and ‘mousing’) skills, and so forth. This list is, in reality, relatively long when operationally specified.

Limitations of human skill competencies – some acquired in schools, others in other formal (work) or informal settings – are a major barrier to the use of IT tools today. When added to problems of power and connectivity, mentioned earlier, the challenge becomes: you can’t have IT ubiquity without literacy, nor literacy ubiquity without IT. This seeming conundrum has been difficult to address in the reality of development projects in poor countries (Perraton, 2000).

There are issues, of course, concerning the overall scale of the target population. It is commonly said that there are over 100 million

school-aged children out of school, and about one billion adult illiterates, the majority of whom reside in South Asia and Africa (Unicef, 2000). Even these large (and growing per annum) numbers are likely to be a serious underestimation of literacy needs in the digital age. Indeed, if the larger set of skill competencies mentioned above were employed, along with the limited efficiency of adult literacy and second chance education programs, and the very low quality of many poor rural schools in developing countries, it would probably be more accurate to say that those in need of improved basic skills today represent between 2-3 billion individuals (Wagner, et al. 1999; Wagner, 2000). Of these individuals, we might estimate that at least half are among the ‘poorest of the poor’, as they will undoubtedly be over-represented by ethno-linguistic groups for whom access in the ‘metropolitan’ languages of the digital world (i.e. English, French, Spanish) is quite limited.

This situation, when considered in its entirety, and over decades of promises and goals unmet – both within and across countries – would lead the rational observer to have serious doubts that anything, and perhaps especially (relatively expensive) IT would be a foolish enterprise. Indeed, over nearly a decade of discussion, the most usual response from both international and national policy makers, as well as those practitioners ‘on the ground’ has often been: “Are you crazy?”



### Possible?

Perhaps... But let us reconsider the situation in the year 2001. In many developing countries, the atmospherics concerning IT applications have undergone a dramatic change: from 'are you crazy?' to 'well, let's see what might work for us.' Even for the poorest population sectors, the benefits of IT seem well suited for coping with the problems of basic literacy and technological literacy, and enhancing the socio-economic consequences for the lives of the users. Why is this so? First, poor people in developing countries (and many in industrialized countries as well) tend to live in dispersed geographical contexts and are comprised of diverse populations of youth and adult learners, where distance education can be an effective tool. Second, there is limited and thinly distributed professional expertise in terms of teachers, which can be enhanced by IT-supplemented training. Third, because many in the target population are unable to sit in classrooms (and are too old for the formal school system), the interactive and asynchronous nature of IT can provide useful solutions. Finally, the diversity of the population of poor people (by ethnicity, language, gender, etc.) requires the kind of customer focus that, when properly employed, is potentially far more effective within the IT realm than by individual teachers. For example, even teachers that are quite skilled may lack the language skills necessary to be effective with poor, minority-language learners.

Another typical question when IT is mentioned as a 'solution' among the very poor is: "How can you give every poor person a computer, or access to the Internet?" Quite right, of course. These questions are difficult to answer for development among the very poor. But they are probably the wrong initial questions. A more pertinent question is simply: What IT solutions should we consider in the near, medium and long-term with respect to poor populations with very diverse demographic characteristics?

One answer in education is to focus on the professional development and training of teachers, since the quality of teachers is known in virtually all countries (rich and poor) to be a key predictor of student learning. And, as almost any observer will relate, in poor parts of poor countries, many if not most teachers usually lack adequate training for the job they are doing. Thus, teacher training provides a relevant locus for this kind of effort, assuming the cost constraints can be met. This is so not only because training a teacher can leverage impact on many more beneficiaries, but also because it is not so difficult, even in poor countries, to bring most or all teachers to IT, rather than having to take IT out to all the teachers. Furthermore, teachers can become "intermediaries" for bridging the digital divide for the tens of millions of low-literate or illiterate youth and young adults who are in school or are in non-formal education programs in developing countries, but have had little prior access to IT.

### Feasible?

Teacher training resources can be delivered through existing training institutions, and would comprise CD-ROM based materials, collaboration technology for sharing materials, pupil training resources, and culturally appropriate and multi-lingual content. Such a collaborative program has recently been launched as the Bridges to the Future Initiative (BFI), which will begin soon in India, followed downstream by additional partner countries. The main overarching goal of the BFI is to try to answer the basic question posed in this short article: namely, in what ways can IT-based learning and information resources be put to service to assist the poorest sectors of populations in diverse cultural settings?

**What IT solutions should we consider in the near, medium and long-term with respect to poor populations with very diverse demographic characteristics?**

## Core Principles

While the BFI partnership has some ideas on a set of specific goals (see website: [http://literacy.org/bfi\\_iliindex.html](http://literacy.org/bfi_iliindex.html)), what is most important in such initiatives is the set of core principles that will guide the project, and these we list as follows:

### 1. Even in poorest sectors, IT is now too cheap to ignore.

While once it could be said that IT would take money away from other lower technologies (such as chalk and blackboards), new approaches can show cost-effective benefits when properly employed.

### 2. Advanced IT tools may be relatively more cost-effective for the poor than for the rich.

It was often thought that old IT (e.g. radio) was necessarily the best route to reaching poor people, while advanced ITs were only cost-effective for the rich. The example of the cellular phone has dispelled that thought. The Grameen Bank effort in South Asia has shown that even the poorest people can find value and resources to support a system of cellular communications. Paradoxically, in wealthier countries, one could easily argue that cell phones have relatively less value than in poor countries precisely because wealthier people have ubiquitous access to wired phones, while the cellular network is more of simple convenience than necessity.

**3. Learning technologies must have learning and content at their core** (Wagner, 2000). Many of the most egregious mistakes in the digital divide era concern an overly narrow focus on IT, without commensurate

focus on learning and content. Projects within the digital divide must first and foremost be about learning, and about culturally appropriate content. No amount of hardware and access can be a substitute, and significant losses of costly infrastructure have been wasted when this principle has been ignored.

### 4. IT tools must be consumer-oriented and context/culture sensitive.

Consumer sensitivity is a longstanding buzzword of marketing in the private sector, yet it seems to be sometimes forgotten in 'supply-side' projects that try to marry IT and education. Especially when focussed on the poor, it is critical to pay very close attention to consumer interests and values, which also means ethnic, language, gender, and other cultural dimensions. The poorest people in most countries have an over-representation of people from ethno-linguistic minorities. Thus, development of materials designed specifically for these people is essential, even if the startup costs are greater on a per capita basis.

### 5. Literacy and technology are becoming inter-dependent.

Literacy and technology are "tools" that have much in common. Neither is an end to itself, but each can amplify human intelligence and human capability. In addition, both are rapidly becoming inter-dependent. New literacy programs need to take advantage of the power of IT, but IT work will require an ever more skilled population of workers and consumers (OECD, 2000). Societies that do not work on both of these dimensions

together and with some degree of synergy will fall further behind in the digital divide.

### 6. In present day economics, the J.I.T. (just-in-time) concept has taken on great saliency, some of which has direct merit to projects like the BFI, for poor people.

In addition, we must keep in mind an equivalent J.E.H. (just-enough-help) concept, which will provide IT-based resources when and where needed for those who do not already possess IT skills and basic skills needed for ready access and use.

### 7. Collaboration is not just lip service in addressing digital divide problems for the poorest sectors.

There are many ways to begin projects, to pilot-test them, and so forth, but programs with staying power are likely to have to reinforce existing government structures (rather than replace them), and enhance as a priority mainly those areas of public education that are most in need of assistance (e.g., teacher training). NGOs can and will be crucial in the organizational mix, but are unlikely, alone, to make a substantial difference in most countries today.

### 8. Furthermore, private sector involvement in Digital Divide efforts is essential in order to take advantage of latest IT tools, and more so than in other educational projects.

The private sector can offer advanced knowledge concerning IT tools which will be coming down the road, and which will be able to 'pass down' large numbers of



newly-obsolete PCs which can be quite serviceable among the poor. Similarly, educators (including social scientists) may have access (or can gain access) to knowledge about what is needed from the IT community in order to achieve effective educational consequences. Again, collaboration is critical.

**9. In development circles, broadly defined, and especially in the Digital Divide domain, there is much talk about ‘sustainability,’ which usually refers to how will recurrent costs be covered (for example, by government, external agencies, user fees, etc.).** In today’s environment, and especially when dealing with the very poor, the concern with sustainability can bias projects in directions that are not necessarily most effective for the end users. There is no single answer to this question, but there is little doubt that the poorest of the poor are unlikely to be able to pay user fees in the same way that the Grameen Bank model of cell phones was able to achieve over the past decade. Commercially viable IT-based projects – such as fee-driven Internet kiosks – will have some benefits in very poor sectors, but it is unclear whether the poorest people (without both literacy and IT) will derive much benefit in the near-term. This is an area ripe for more research.

**10. Finally, to achieve impact using IT for the poorest will require a real focus on the bottom half of the digital divide population (the top half will take care of itself!).** As we enter the first decade of the twenty-first century, it is not unusual to find digital divide initiatives that provide more access to universities, secondary school, and primary schools. However, in a great many (perhaps well more than the majority) of these cases, the recipients are those who are already in the middle or upper classes of their respective societies – this is especially true in developing countries where it is assumed that only middle class communities can make appropriate use of IT. The challenge, of course, is to stay focused on the poor – otherwise the digital gap will simply increase further.

*In sum, working on IT to enhance the education and livelihood of poor people is a tremendously challenging area of development work today. To be effective in this complex and ever-changing domain is more difficult than meets the eye. Yet, with a set of good principles, and a reasonable level of support, a great deal can be achieved – indeed more than has ever been thought possible before.*

**References**

DOTForce† (2001). Digital Opportunities for All: Meeting the Challenge Report of the Digital Opportunity Task Force. Washington: World Bank/UNDP.

NTIA (1999). Falling Through the Net: Defining the Digital Divide. Washington: U.S. Department of Commerce.

OECD/Statistics Canada (1997). Literacy skills for the knowledge society: Further results from the International Adult Literacy Survey. Paris: OECD.

OECD. (2000). Learning to Bridge the Digital Divide. Paris: OECD. Based on 1999 roundtable held at University of Pennsylvania in Philadelphia.

Perraton, H. (2000). Applying new technologies and cost-effective delivery systems in basic education. UNESCO, Paris: World Education Forum, Dakar, Senegal. Unicef. (2000). The state of the world’s children. New York: Unicef.

Wagner, D. A. (2000). Global thematic study on literacy and adult education. UNESCO, Paris: World Education Forum, Dakar, Senegal.

Wagner, D. A., Venezky, R. L., & Street, B. V. (Eds.) (1999). Literacy: An International Handbook. Boulder, CO: Westview Press.

This article was first published in TechKnowLogia July/August 2001, <http://www.TechKnowLogia.org>. Copyright © 2001 Knowledge Enterprise, Inc.

Daniel A. Wagner is Professor and Director of the International Literacy Institute (ILI) at the University of Pennsylvania – UNESCO, Philadelphia, PA 19104-3111. The ILI website is <http://www.literacy.org>. Dr. Wagner can be reached at [wagner@literacy.upenn.edu](mailto:wagner@literacy.upenn.edu).

# E-Learning Growth and Promise for the Developing World

Joanne Capper  
World Links for Development, The World Bank

## The Status of E-Learning

A growing number of organizations are now delivering training and education over the Internet, including colleges and university, corporations, military institutions, and even secondary schools. Just last month, the Massachusetts Institute of Technology (MIT) announced that learning materials and syllabi for all courses were being put on the Internet for anyone to use. While access to the materials will not grant course credit with the institution, the faculty and administration determined that knowledge is for sharing and the Internet is the most efficient transmitter of knowledge ever available. The United States Army recently announced the launch of the Army U., a complete online university degree program available to all Army personnel.

There are an estimated ten million courses now online, and the U.S. alone reports about 700 e-learning companies. Some companies or institutions offer online tutoring to students at specific grade levels, ranging from primary through university; others offer courses only for corporations; some offer courses for individuals in career development and/or personal development; and many offer training in various management, finance and IT-related skills. Increasingly, training and support for teachers is occurring online, and a number of institutions now offer either partial or complete secondary diplomas through e-learning. E-learning companies tend to fall into one of the following categories:

- Providers of content – often corporate and IT training. Within this category are three subcategories: companies that develop content and sell to all who choose to enroll; those that aggregate content developed by others; and those that

custom design content for the specific needs of an organization. Two organizations that evaluate online content are [www.Lguide.com](http://www.Lguide.com) and [www.Brandon-Hall.com](http://www.Brandon-Hall.com).

- Providers of learning platforms. These companies provide a range of hard- and software technologies that facilitate the development and delivery of online courses, ranging from content creation to learner registration and course record keeping.
- Learning hubs or portal companies offer learners or organizations consolidated access to learning and training resources from multiple sources.
- A complete package. Some e-learning companies are attempting to do all of the above.

## The Future of E-Learning

Increased access to the Internet and greater bandwidth are both expected to increase the number of individuals moving into online learning. International Data Corporation (IDC) forecasts that there will be 320 million Internet users worldwide by the end of 2002, up from 97 million at the end of 1998. And broadband connectivity is expected to grow from approximately one million households in 2000 to almost 26 million by 2003 (Close et al. 2000). Broadband access increases the speed of Internet access and does away with the frustrating tedium of waiting for Web pages to download – a disincentive for the e-learning process. A study conducted by MediaOne found that households with broadband cable



Internet connections averaged 22.5 hours of usage per week as compared with just 4.7 hours for households with dial-up connections.

In the past year, four US investment firms have conducted detailed market analyses of what they refer to as the e-learning sector, encouraging their clients to consider investing in e-learning companies. They project remarkable growth in online learning worldwide and have peppered the reports with dramatic statistics and claims. For example:

- John Chambers, CEO of Cisco Systems argues that, "Education over the Internet is going to be so big it is going to make e-mail look like a rounding error." (Close, Humphreys and Ruttenbur, SunTrust Equitable Securities, March 2000)
- The online training market is expected to nearly double in size every year, reaching approximately \$11.5 billion by 2003. (Urduan and Weggen, 2000)
- Venture capitalists see the growth potential of e-learning. Over US\$1 billion in private capital has been distributed to e-learning companies and more than US\$302 million in public equity was raised in 1999 alone. (Close, Humphreys and Ruttenbur, SunTrust Equitable Securities, March 2000)

- Knowledge services – education and corporate learning for the new economy – is a \$2-trillion industry globally. (Moe, 2000)
- By 2002, technology-based training will capture the majority of dollars for IT training, at 55% versus the 45% share captured by instructor-led methods. (Moe, 2000)

### The Advantages of E-Learning

There are a number of benefits to learning online that are unique to the medium:

- Any time. A participant can access the learning program at any time that is convenient – not just during the specific 1-3-hour period that is set for a conventional course. The episodes can be quick snatches at odd times or long late-night sessions. Cross-time-zone communication, difficult to arrange in real time, is as easy as talking to someone across town when using the Internet.
- Any place. The participants do not have to meet. That means they can be anywhere. International sharing is feasible. Individuals can log on at work, home, the library, in a community learning center or from their hotel when traveling.

- Asynchronous interaction. Unlike face-to-face or telephone conversations, electronic mail does not require participants to respond immediately. As a result, interactions can be more succinct and to-the-point, discussion can stay more on-track, and people can get a chance to craft their responses. This can lead to more thoughtful and creative conversations.

- Group collaboration. Electronic messaging creates new opportunities for groups to work together, creating shared electronic conversations that can be thoughtful and more permanent than voice conversations. Sometimes aided by on-line moderators, these net seminars can be powerful for learning and problem-solving.
- New educational approaches. Many new options and learning strategies become economically feasible through online courses. For instance, the technology makes it feasible to utilize faculty anywhere in the world and to put together faculty teams that include master teachers, researchers, scientists, and experienced professional developers. Online courses also can provide unique opportunities for teachers to share innovations in their own work with the immediate support of electronic groups and expert faculty.

Studies have shown that individualized learning environments are considerably more interactive.

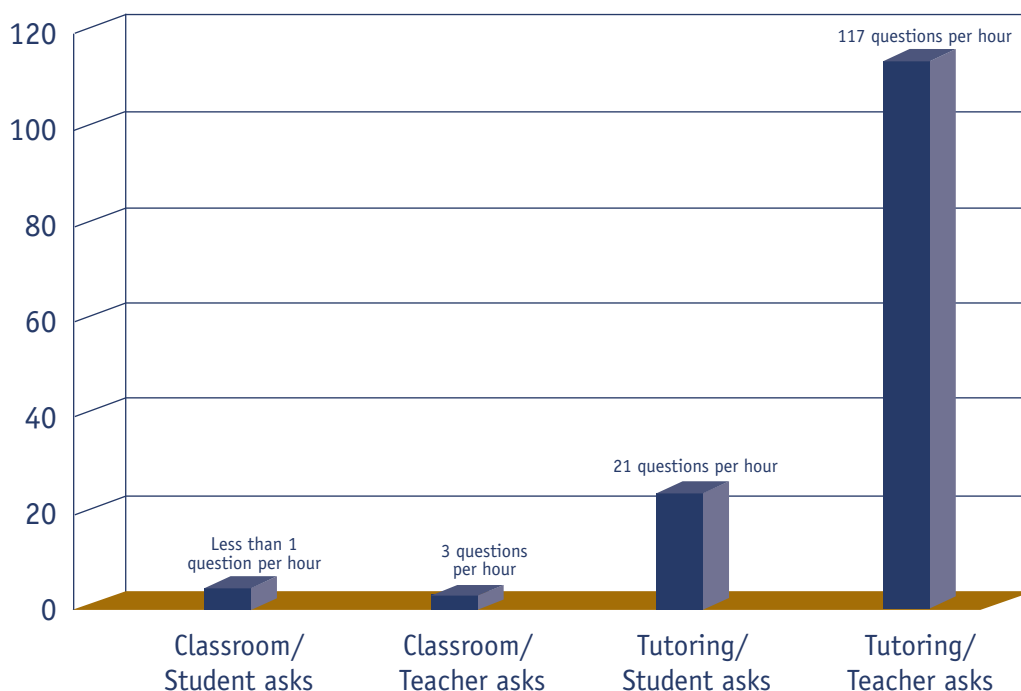
Does E-Learning Work?

- Integration of computers. The online learner has access to a computer, so computer applications can be used without excluding some participants. This means, for instance, that a mathematical model implemented in a spreadsheet can easily be incorporated into a lesson and downloaded so all participants can run, explore, and refine the model and then share their findings and improvements.

The individualized interactivity provided by an Internet-connected computer is believed to contribute significantly to the effectiveness of the online learning environment. And even without the Internet connectivity, computer-based learning programs have shown compelling results in both effectiveness and efficiency. While no machine can come close to the quality of instruction that can be provided by a good human teacher working with a student one-on-one, teachers typically

have 25 to 35 students to deal with at one time – and often many times that number. A well-designed computer-based or online learning program can offer much more opportunity for individualized interactivity than is available in most classrooms. Studies have shown that individualized learning environments are considerably more interactive. For example, as **Graph 1** below shows, the average number of questions a teacher asks in one classroom hour is three, and the average

Graph 1: Number of Questions Asked and Answered in Classrooms vs. One-on-One Tutoring One Hour Session





number of questions asked by one student during one classroom hour is less than one. However, when learners are in a one-on-one tutoring environment, they typically ask up to 21 questions per hour and tutors ask and students answer an average of 117 questions per hour.

**In a classroom, teachers are seldom able to spend more than a couple of minutes with any one student.** Consequently, students must often practice new skills on their own. If the student does not understand the skill or concept, then he or she may be practicing problems or exercises incorrectly, or developing inaccurate conceptions.

**A 1990 review of computer-based instructional programs using interactive videodisc (a precursor to CD-ROMs and DVD) to train adults across a range of sectors revealed quite positive findings.** Of the 21 studies that compared the computer-based training with traditional instruction, all showed equal or significantly superior performance of the computer-based students, and eight studies found that these students learned in less time with savings ranging from 10% to 60% and from 4.7 hours to 8 hours (Capper, 1990). Studies represented a range of subjects, topics, sectors and settings, including health (giving intra-muscular injections or CPR), college science, management training, sales training, military terrain analysis, troubleshooting and repair of large and costly equipment, use of a 35 mm camera,

use of hazardous materials in the workplace, and smoking cessation.

**These studies and those listed in Tables 1 and 2 did not have the benefit of the increased interactivity and accesses to vast libraries of resources available on the Internet, and yet consistently showed superior performance both in terms of higher learning achievement and quicker mastery of learning objectives.** The results are likely to be even more substantial given Internet access, for which research evidence is still quite limited. Tables 1 and 2 show achievement and time-to-mastery comparisons between traditional computer-based instructional programs at various levels, and the more robust knowledge-based tutoring programs developed more recently, also called intelligent computer-assisted instruction (ICAI).

**Table 1 shows that on average, across levels of education and training, the 233 computer-assisted instructional (CAI) studies resulted in increased student performance from the 50th percentile to about the 65th percentile (Kulik, 1994, Fletcher, 1997).** But the three studies of the more recently-developed knowledge-based tutors resulted in increased learner performance from the 50th percentile to about the 84th percentile. **Table 2 shows that this increased performance is accomplished in 55% less time than traditional instruction, compared with an average of 29% reduced time for CAI.** In fact, contractors who bid to develop online training for

the U.S. military bid on the promise of reducing time to mastery by 50%, and one study of Italian Air Force training reported an 80% time savings. Such time savings can result in substantial cost savings (Fletcher, in press).

**ICAI programs are able to generate and solve problems, store and retrieve data, diagnose students' misconceptions, select appropriate teaching strategies and carry on dialogues with students.** They incorporate some very sophisticated conceptions about learning, and, for the most part, are designed by researchers who have devoted a great deal of time to the study of how people think, learn and solve problems, and thus offer useful standards and expectations for the use of computers as tools for learning

**Courses designed for online learning tend to be much more richly developed than are typical in-person courses where the instructor expects to be able to provide clarifications as questions arise.** In fact, interviewed e-learning directors stress that it is important to completely reinvent how a course is taught when it is put online – that simply putting PowerPoint slides onto the Web will not result in high-quality learning. They claim that the online courses they develop are highly robust, are specifically designed for Web-based learning, attempt to have all the learning resources embedded into the course, and include detailed tracking and reporting tools.

**Table 1: Effect sizes with CAI and knowledge-based tutors**

Institutional setting and Courseware type	Number of studies	Effect size	(%) Performance increase compared to traditional instruction
<b>CAI</b>			
Elementary school	28	0.47	68%
Secondary school	42	0.42	66%
Tertiary education	101	0.26	60%
Adult education	24	0.42	66%
Military training	38	0.40	66%
CAI average effect size	233	0.39	65%
<b>Knowledge-based tutors</b>			
Secondary school	1	1.00	84%
Tertiary education	1	0.97	83%
Military training	1	1.02	84%
Knowledge-based tutor average effect size	3	1.00	84%

Source: Woolf and Regain (2000).

**Table 2: Reduction in time needed to reach instructional objectives for CAI and knowledge-based tutors**

Courseware type/Institutional setting	Number of studies	Percent time reduced
<b>CAI</b>		
Tertiary education	17	34%
Adult education	15	24%
Military training	23	28%
CAI average time reduction	55	29%
Knowledge-based tutors Tertiary education	3	55%

Source: Woolf and Regain (2000).



## What remains constant is the need for better ways to provide an education at the lowest possible price.

Some e-learning companies also tailor material to their client's needs and provide instant updates on the latest developments in their client's field of interest. This means that the information disseminated to the individual learner is the latest available. In business, where knowledge is the greatest asset and biggest profit-maker, this is perhaps the ultimate expression in the Internet's cost-effectiveness.

Ruttenbur et al. (2000) report that "business models are continually (and quickly) evolving in this nascent industry" (p.37). What remains constant, though, is the need for better ways to provide an education at the lowest possible price. For a company or university to remain competitive in the field of Web-based education, it must adapt to both changes in technology and the requirements of its clients.

### Promise for Development

Most developing countries have tremendous education and training needs. Few have even close to adequate numbers of IT professionals and most companies and government agencies will need to spend considerable investments in preparing their current staff to use information technology in their jobs. The overwhelming demand for secondary and tertiary education is an issue that will not go away and will have to be addressed in some way or other. Internet based learning offers the possibility of expanding that access. Upgrading of government staff, health

workers and teachers is an ongoing process and the current training-of-trainers approaches often suffer from quality dissipation as the training works its way down the cascaded system. The plague of HIV/AIDS is exacerbating already existing shortages of trained teachers and other workers and in some countries, two people are being trained for every one that is needed to replace those lost to this ravage.

Clearly we cannot expect that most individuals will be able to afford a computer at home. But a viable option is to establish a nationwide network of community learning centers stocked with computer laboratories with broadband access and staff who are trained to access online distance education opportunities and provide tutoring support to individuals and groups as they engage in learning activities. Such centers can be connected to schools, hospitals, clinics or other community service centers where community members congregate and the existing needs are strong.

We don't yet know what it will take to make such centers work, but with the compelling evidence in support of computer-based learning and the growing array of learning opportunities available through the Internet, it seems worth the effort to experiment, study, refine and disseminate knowledge about this new approach to education and training.

### References

- Capper, J. (1990) "Review of Research on Use of Interactive Videodisc for Training." Report prepared under contract with the Institute for Defense Analysis, Alexandria, VA.
- Close, R. Humphreys, R. and Ruttenbur, B. (2000) *E-Learning & Knowledge Technology: Technology and the Internet Are Changing The Way We Learn*, Sun Trust Equitable Securities. (<http://www.masie.com>)
- Fletcher, J. D. (1997) "What Have We Learned about Computer-Based Instruction in Military Training?" In R. J. Seidel and P. R. Chatelier (Eds.), *Virtual Reality, Training's Future?* New York, NY: Plenum Publishing, pp. 169-177.
- Fletcher, J. D. (In press) "Evidence for Learning from Technology-Assisted Instruction." In H. F. O'Neil Jr. and R. Perez (Eds.) *Technology Applications in Education: A Learning View*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Moe, M. (2000) *The Knowledge Web: People Power – Fuel for the New Economy*. Merrill Lynch.
- Ruttenbur, B., Spickler, G. and Lurie, S. (2000) *E-Learning: The Engine of the Knowledge Economy*, Morgan Keegan & Co., Inc.
- Urdan, T. and Weggen, C. (2000) *Corporate E-Learning: Exploring a New Frontier*. Hambrecht & Co.
- Woolf, B. and Regain, W. (2000) "Knowledge-based Training Systems and the Engineering of Instruction." In Tobias, S. and Fletcher, D. (Eds.), *Training and Retraining: A Handbook for Business, Industry, Government and the Military*. New York: Macmillan.

---

This article was first published in TechKnowLogia, May/June 2001, <http://www.TechKnowLogia>. Copyright© 2001 Knowledge Enterprise, Inc.

## Hot Websites for Learning and Teaching

### SchoolNet Thailand

<http://www.school.net.th/index.php3>



This colourful, information-filled site is in Thai. Currently, 3,880

primary and secondary schools in Thailand are connected and use this site as a resource and network for sharing relevant information.

The SchoolNet Thailand homepage offers a diverse range of options including:

- The Education Page, which offers links to a selected Educational Site of the Week (and access to an archive of past selections), Schools on the Net, Other Useful Websites and Library Websites;
- School Directory, providing access to information on the member schools connected to SchoolNet Thailand. These schools are categorized by region;
- Support and Technical Service;
- Activities, which includes an events calendar and links to national and international partner sites;

- Digital Library for SchoolNet;
- Information on SchoolNet Volunteers;
- FAQs; and
- An extensive list of Miscellaneous Articles from electronic journals such as SchoolsTalk, NECTEC Courseware, ThaiParents Net, Thai2learn.com and the journal of the Youth Development Foundation.

Two features of the homepage are SchoolNet News and Hot Spots, which are continually updated with the latest information and links to other relevant sites. Hot Spots includes articles, competition information and invitations to upcoming activities.

SchoolNet Thailand is served and managed by Network Technology Laboratory (NTL) and the National Electronics and Computer Technology Center (NECTEC).

### The Open University of Hong Kong

<http://www.ouhk.edu.hk>



The Message from the President explains the purpose of the Open University of Hong Kong (OUHK):

*“Not long ago, elitist education was regarded as the norm in our society. Those who failed to get good marks in public examinations were barred from further education. As a result, much of their potential remained untapped.*

*In contrast, the Open University believes those eager to learn should*

*be given the chance to do so. We uphold the principles of education for all, and have a stringent exit system to ensure our graduates are of high quality.”*

This well-designed site, presented in English and Chinese, explores the educational possibilities for those who want an opportunity to pursue a distance education, often because higher education was previously unavailable to them or they are interested in pursuing a new field of interest. OUHK, a non-profit institution, also tries to make their degrees financially feasible through community support and private enterprise funding.

The homepage introduces OUHK in the About Us section. This includes the mission statement, the message from the President, facts and figures, publications, awards, academic research and contact information. The Programmes and Courses section describes the curriculum options and

also presents the OUHK prospectus and access to application forms. The Study at the OUHK section answers a series of questions that potential students may ask, such as “why should I choose the OUHK?”, “do my previous qualifications count?” and “what support will I get?”. It also covers “what do other students say?” with moving personal descriptions of the benefits of OUHK accompanied by pictures of the students.

Other menu items on the homepage are the extensive Electronic library; Online Learning Using Web Course Tools (WebCT); OUHK on TV, which describes “Open for Learning”, a show broadcast every Sunday from 9 am to 1 pm on TVB Pearl covering various education topics; community Support, which provides more information on OUHK Partners in Learning Programme and other funding mechanisms; and listings of job vacancies, career placements and relevant links.

## Korea National Open University

<http://www.knou.ac.kr>



The opening page of the Korea National Open University (KNOU) offers its contents in Korean with an option for English. KNOU introduces itself as a “state-of-the-art university” for distance education. The only qualification for becoming a student in this Open University is Korean citizenship (all classes are given in Korean). It aims to “upgrade the level of Korean education and spearhead world education.” In the future it envisions offering Education toward Reunification and Educational Support for Overseas Koreans, as well as becoming a leader in Korean Education. KNOU is joined in its effort by auxiliary institutions including the Center for Lifelong Education, the Institute of Distance

Education and the Educational Development Media Center.

Menu options on the KNOU homepage are:

- About KNOU, which includes descriptions of its Ideas and Visions, a Brief History from its beginning in 1972, a Message from the President and 11 pages of KNOU Statistics covering a diverse range of information.
- Prospective Students, which explains the learning methods and application process for KNOU. The Academics section describes the curriculum and links to individual academic departments and the Center for Lifelong Learning.
- International Relations, which introduces KNOU’s “sisterhood” involvement with foreign distance education universities. It also notes its role as the East Asian branch of the International Council for Distance Education (ICDE), a council of world distance education institutions. KNOU has held a number of distance education workshops and has played a role in the UNITWIN project of UNESCO.
- Faculty and Staff, which shows the overall organization of the

university and provides e-mail contact information for the faculty and staff members.

- Auxiliary Institutions, which gives descriptions of these institutions and includes information on the University Computer Center, Library, Press and Newspaper.
- Cyber Education, which presents two multi-university consortiums (“Korea Virtual Campus” and “Information & Communication Cyber University”) that KNOU participates in. Along with the other member universities, KNOU provides many of the courses that make up the curriculum of these two projects.
- Q & A, which has questions asked by prospective students or others about KNOU.

From the statistics on enrolment and its involvement in international projects, KNOU and its auxiliary institutions seem to be in the forefront of distance education. It is not possible without an understanding of Korean to evaluate the course content – but for any Korean interested in distance education this seems to be an important site to visit.

## Teachers Helping Teachers

<http://www.pacificnet.net/~mandel>



Online for six years, the popular Teachers Helping Teachers Website is managed by Dr. Scott Mandel. This site is for teachers by teachers and is a non-profit service sponsored by private sector donors. Each week of the school year the site is updated with the month and day clearly

posted. The Web pages are sprinkled with amusing or inspiring quotes and cartoons, some animated. The homepage includes Dr. Mandel’s plea encouraging all teachers to contribute, as “that’s the only way the system works”.

The goals of the site are to provide basic teaching tips to inexperienced teachers and ideas that can be immediately implemented in the classroom; to provide new ideas in teaching methodologies for all teachers; and to provide a forum for experienced teachers to share their expertise and tips with colleagues around the world.

The site offers creative lessons in math, science, social studies, the arts and special education. Teachers are prompted to make copies of the

lessons provided for use in their classrooms. These can be tailored as needed for specific purposes of each teaching environment. Of course, the submission by teachers of their own creative lessons is a very welcome addition to the site.

Homepage options include:

- Educational links providing the best educational sites for teachers;
- Guest book, a place to network with teachers from around the world;
- Lesson plans from teacher contributions in all major subject areas; and
- Stress reduction, a section for comic relief.

Book reviews and management plans for the classroom are also presented on the site.

## FAST TRACK@SCHOOL

<http://schools.s-one.net.sg>



Singapore is dedicated to making IT a fundamental element in its future:

*"Singapore's IT2000 Masterplan is transforming the country into an Intelligent Island where information technology (IT) is exploited to the fullest to enhance the quality of life of the population at home, work and play."*

Singapore ONE (S-ONE) is the name of the national initiative established to deliver interactive, multimedia applications and services to homes,

businesses and schools throughout Singapore. Part of this initiative is the Fast Track@School project that aims to make S-ONE relevant and useful to schools and to encourage schools, teachers and students to use S-ONE for teaching and learning. It also is helping students get S-ONE access both in school and at home at an affordable rate. Fast Track@School is supported by the Infocomm Development Authority of Singapore (IDA Singapore) and the Ministry of Education.

The Fast Track@School site homepage includes the following options:

- Fast Track@School Pilot offers a list and links to 26 schools currently involved implementing projects;
- Adopt-a-School Initiative describes how this initiative works by combining industry partners with specific schools to develop and provide Interactive Broadband Multimedia (IBBMM) content and solutions for local and international education communities. Presented

also are project descriptions for the 20 schools participating in the initiative.

- School Highlights focus on selected projects, experiments and partnerships of note;
- Article Highlights link to "Articles on Schools on One" with an extensive list of articles on diverse educational topics. This includes interactive forums, scholarship information and coverage of current TV and movie trends;
- Fast Track@School Events include summaries of past events, as well as posting upcoming competitions and past winners.

Focused and well-structured, this Singapore-specific site presents a good example of a national effort to get schools online and to present appropriate and interesting materials. The amount of collaborative effort it takes to maintain such a programme should be noted as an important factor for success.

## The GLOBE Program

<http://www.globe.gov>



The GLOBE Program is a worldwide, hands-on, primary and secondary school-based science and education programme. The focus is on global learning and observation to benefit the environment (this forms the basis for the acronym GLOBE).

The extensive, interactive and easily-navigated Website created for the GLOBE Program is a cooperative effort of schools, led in the United States by a Federal interagency program sponsored by NOAA, NASA, NSF, and EPA, in partnership with over 140 colleges and universities, state and local school systems, and non-government organizations. Internationally, GLOBE is a partnership between the United States and 95 other countries, and, as of November 2001, over a million primary and secondary students in more than 10,000 schools have taken part in the programme; there are more than 16,000 GLOBE-trained teachers and those numbers are growing (please visit the site to find out how to join).

The main menu on the homepage is organized in five sections:

- Science and Education, which includes sections on teacher's guides,

measurements, student investigations, school collaboration, scientists' corner, educators' corner, teacher workshops and program evaluation;

- Globe Data covers data entry, visualizations and a data archive;
- Globe Partners, presents countries, schools, U.S. partners and other partner organizations;
- Library includes a resource room, "GLOBE Stars", GLOBE bulletins and news and events; and
- Information and Help also has a section of FAQs.

Highlights of the site are the "Stars" section, which covers recent projects, programmes, conferences and workshops that involve schools, students and raising environmental awareness; and the "Feedback" section, which invites thoughts from teachers or students on specific subjects and is available in English, Spanish, French, Russian, Dutch, German and Arabic.

## EdNA Online

<http://www.edna.edu.au>



EdNA Online aims to support and promote the benefits of the Internet for learning, education and training in Australia. It is organized around the Australian curriculum and its tools are free to educators. The site also seeks to promote collaboration and cooperation throughout the Australian education and training sector and facilitates the growth of networks of common interest and practice.

This portal site is a gateway to resources and services for education and training. It focuses on new resources, documents and research

reports, information of interest to the education community, media releases and frequently asked questions about ICT and education.

The home page options include:

- Discover, a section where users can search for specific requests or browse resources in adult community education, Australian and international educational organizations; general references across all education sectors; higher education in Australia; school education for teachers, principals, parents and students with links to teaching resources and lesson plans, policy documents, organizations related to school education, education departments and schools; and vocational education and training, which includes learning materials, networks, authorities, policy, industry information, traineeships, packages, support services, training providers and research.

- Communication, which provides a list of discussions available on specific subjects, forums and chats, tools and a notice board.

- Events and Publications, an option that lists Australian and international conferences, publications available through the site and media releases.

- What's New includes links to new online services, news and views online in education as well as what's new in early childhood services.

A directory of education institutions in Australia and links to many other relevant sites, such as Good Practice and Leadership in the Use of ICT in Schools (an EdNA initiative for K-12 educators), the Australian Museums and Galleries Online, the Australian Mathematics Trust and EdNA Technical Standards for Education and Training are also offered on the site.

## LearnLink

<http://www.aed.org/learnlink>



LearnLink is a site committed to strengthening learning systems for sustainable development through the use of information, communication and educational technologies (ICETs). Activities implemented by LearnLink are designed for specific developing countries, as determined by Task Orders from USAID Missions, Bureaus and Offices around the world, and are aimed at improving countries' capacities to access learning resources.

From its projects, LearnLink is able to produce globally relevant "models of use", which describe technology applications and provide practical guidelines and strategies for assessment, implementation, institutionalization, sustainability, monitoring and evaluation.

The homepage menu offers four options:

- About, which describes the aims, background, functioning and sponsorship of LearnLink;
- Projects, a section providing descriptions of over 16 projects throughout the world. The projects are listed by country with a short summary provided. For more information on specific projects, there are links to the project sites.
- Resources, offers two parts: "Links" that connects users to related sites by topic and "How do we do that?" with information on the

technologies used for implementing projects including Web-development tools and downloads; and

- Publications, which provides electronic versions of LearnLink products and materials in PDF and HTML formats. These materials are divided into five sections: Country Papers, Newline (a regular update of the activities of LearnLink projects), Project Briefs, Gender, Information Technology, and *Developing Countries: An Analytic Study* (a recently released book) and Brochure, an informative overview of LearnLink activities.

The site is funded by the U.S. Agency for International Development (USAID) Global Bureau and is managed by the Academy for Educational Development (AED).

## Recent UNESCO PROAP Publications

### Handbook on Effective Implementation of Continuing Education at the Grassroots

*Asia-Pacific Programme of Education for All (APPEAL), UNESCO Principal Regional Office for Asia and the Pacific, Bangkok 2001. 197 p.*



This handbook is useful for anyone involved in continuing education but is intended for those directly involved at the grassroots level, including supervisors, coordinators, trainers, developers of educational materials, project planners and managers.

“Effective”, in the context of this handbook, refers to helping people learn how to say what they need and it refers to teaching subjects that will impact on their lives. It also means doing the right thing in the right way. The material is organized in two sections: Part I gives an overview of the process of implementing continuing education programmes and broad lessons emerging from the different experiences in the Asia-Pacific region. Part II discusses in more detail the wealth of case studies presented from Australia, China, India, Korea, Philippines, Thailand, Bangladesh, Nepal, Indonesia and Malaysia as models for the effective implementation of continuing education programmes. This part covers topics such as farming, community-based poverty alleviation, credit systems and cattle rearing.

### EFA Planning Guide, Southeast and East Asia: Follow-up to the World Education Forum Dakar, Senegal, April 2000

*Planning and Sector Analysis Unit, UNESCO Principal Regional Office for Asia and the Pacific, Bangkok, 2001, with funding from the Asian Development Bank. 110 p.*



The EFA Planning Guide is designed as a basic technical tool for educational planners, statisticians and members of national EFA task forces. It is meant to provide practical support and help in the preparation of sound, realistic EFA Plans of Action, based on the Dakar Framework for Action that calls upon governments to ensure EFA goals and targets are achieved by 2015. The Guide is the result of an intensive process undertaken by UNESCO PROAP over a period of six months to synthesize the broad, longstanding and practical planning experiences of countries in Southeast Asia. This process has involved senior planning experts from government agencies and universities in workshops, peer reviews and the final writing process.

The scope of the Guide attempts to provide how-to advice for educational practitioners working at sub-national levels on how to prepare long-term plans at the primary and secondary level. The material is presented in six sections:

1. Fundamentals of education planning
2. Planning for EFA
3. EFA planning for formal basic education
4. EFA planning for early childhood care and education (ECCD), preschool, out-of-school children and youth, and adults below literacy level
5. Cost and financing considerations
6. Analysis and projection data for EFA planning

The Guide features a computer-based EFA Analysis and Projection Model on CD-ROM along with a separate 24-page introduction to the model. Also included are the complete texts of the Dakar Framework for Action and the Asia and Pacific Regional Framework for Action.



### Communication and Advocacy Strategies, Adolescent Reproductive and Sexual Health

Booklet 1: Demographic Profile

Booklet 2: Advocacy and IEC Programmes and Strategies

Booklet 3: Lessons Learned and Guidelines

*Regional Clearing House on Population Education and Communication, UNESCO Principal Regional Office for Asia and the Pacific, Bangkok, 2001.*

Fourteen Asian countries were asked to document their experiences in planning and implementing adolescent reproductive and sexual health (ARSH) programmes in the areas of advocacy, information, education and communication. These in-depth case studies have been synthesized into three booklets, which supersede the first series published in 1999 covering only seven countries. The language and graphics in this series help to address a difficult subject with great clarity, with the support of extensive research. The Preface introducing each of the three booklets provides background information and the objectives of ARSH education. It also summarizes the content of each booklet and describes how they relate to each other. All three booklets include a list of the references by country.

**Booklet 1: Demographic Profile** provides overviews of the reproductive and sexual health characteristics, and the different knowledge, attitude and behaviour on sexuality for each of the 14 countries examined. It concludes by examining the trends, problems and challenges in these countries, thus setting the context for the topics addressed in the following two booklets.

**Booklet 2: Advocacy and IEC Programmes and Strategies** first outlines the policies implemented, the lack of official policy and/or the status of legislation for ASRH in all 14 countries. It then examines the types of programmes put into action and concludes with a list of outputs or products of specific advocacy or IEC strategies, noting what was effective and what was less so.

**Booklet 3: Lessons Learned and Guidelines** presents the lessons learned from the experiences discussed in Booklet 2. This is followed by an examination of helping factors, hindering factors and challenges in both advocacy and IEC strategies. The last section addresses guidelines for implementing programmes and activities that are similar to the successful examples.



### Taking Flight: Adolescent Girls Camp

Mathur, Ratna, No. 14, *Education for All, Making it work, Innovation Series, ACEID, UNESCO Principal Regional Office for Asia and the Pacific, Bangkok, 2001. 28 p.*

This is a profile of a programme in India to help girls deprived of schooling enter non-formal education opportunities and then later to enrol in mainstream schools. It tells the story of a man who was inspired by a project elsewhere in India aimed at rehabilitating working children, mostly boys, so that they could enter state-run schools. He introduced the idea of education camps for girls in the Indian state of Rajasthan.

This brief account tells how the programme grew from the first 45-day non-residential camp in one community in 1995 to the six-month residential camps in six locations that have benefited more than 2,500 young girls who are now performing well in local schools. This tender book includes insights into working with a community, finding teachers and preparing them, creating a system to help girls adjust to the foreign environment and relationships, and examines the education material and the modes of teaching needed in such a unique situation.



### Training of Teachers Manual on Preventive Education Against HIV/AIDS in the School Setting

UNESCO Principal Regional Office for Asia and the Pacific (PROAP) and Southeast Asian Ministers

of Education Organization Regional Tropical Medicine and Public Health Network (SEAMEO TROPED Network), Bangkok, 2000. 171 p.

This Manual was prepared as a ready reference for use by in-country trainers in the training of teachers at both the pre-service and in-service levels. The urgency for effective preventive education against HIV/AIDS in this region cannot be underestimated "95% of HIV/AIDS cases come from developing countries" (p.51). As in any regional approach, countries vary greatly in their social, political, economic and cultural environments.

One of the first steps for trainers is to understand what the teachers themselves know about HIV/AIDS, this includes factual knowledge and attitudes. Also critical for the training activities in this book is the emphasis on participatory and active learning.

Part I of the Manual explains how it should be used and Part II contains the eight training modules:

1. The Global Impact and Response to HIV/AIDS
2. Who Is Affected by HIV/AIDS
3. The Effects of HIV/AIDS
4. Protecting Oneself from HIV/AIDS
5. Working Together in the Community
6. The Integration of HIV/AIDS Preventive Education with the Curriculum
7. Use of Learner-Centred Strategies, Life Skills Techniques and Media in HIV/AIDS Prevention Education
8. Assessment Tools for Use in HIV/AIDS Prevention Education

Each module is presented following the same outline, which ensures all the critical elements are presented for each module and provides a coherent structure for the manual as a whole.



### Manual for the Implementation of Community Learning Centres

Thailand: Office of the Prime Minister; the Community Development Department, Ministry of Interior; Office of Rajabhat Institutes Council, Ministry of Education; and Non-Formal Education Department, Ministry of Education, in cooperation with UNESCO's Asia-Pacific Programme of Education for All (APPEAL).

This resource package contains a set of seven manuals aimed at helping local leaders and learning centre organizers strengthen the empowerment of their community. The different topics are designed to help communities analyze their own problems and find solutions without depending on outsiders. The set of self-help booklets encourage grassroot actions by setting up and running a Community Learning Centre (CLC) and other guides to strengthen the CLC to effectively serve all members of the community. Each manual is cheery, crisp and easy to read at twelve pages long, with whimsical illustrations and content that is brief and to the point. The seven topics cover:

- Establishing a Community Learning Centre
- Needs Assessment
- Community Database
- Community Participation
- The Holistic Approach
- Micro-Planning for Community Development
- Self-Monitoring and Evaluation



### Non-formal Adult Education Facilitators Handbook

Asia-Pacific Programme of Education for All (APPEAL), UNESCO Principal Regional Office for Asia and the Pacific, Bangkok, 2001.

This Handbook includes lessons, ideas and many real stories from facilitators working in Asian countries. It is intended for people working in literacy and continuing education programmes in villages, particularly in community learning centres.

The six modules that make up this Handbook are:

- Community Mobilization
- Identification of Learning Needs
- Preparing Lesson Plans
- Participatory Learning
- Using Learning Aids
- Assessing Learning

The handbook is presented in a three-ring binder and within this each module is a separate booklet of about 30 pages. Clearly written, well-organized and supplemented by illustrations, the modules all start with an overview of the topic and include sections that address relevant questions. Accompanying exercises and activities encourage reader interaction for developing new teaching-learning approaches. Each module ends with brief "Concluding Remarks" that emphasize the most important issues of the topic. Booklets can be used separately for specific needs. Suggestions for developing local versions of the handbook are provided.

The handbook is accompanied by a series of videotapes that illustrate literacy and continuing education experiences in selected countries.

## Education, Work and the Future

**Paris: UNESCO, 1999.**  
**1 CD-ROM; 4 3/4 inch. English, French, Spanish.**

This digital library from the Section for Technical and Vocational Education (e-mail: [tve.section@unesco.org](mailto:tve.section@unesco.org)) consists of 230 selected UNESCO publications and documents. It contains a total of some 13,000 pages describing activities and experiences from every region of the world reflecting UNESCO's efforts to promote international cooperation in the fields of technical and vocational education and training over the past five decades. Within this digital library, information can be found by searching for a particular word or phrase or can be accessed from listings organized by subject, title, organization or keyword. The material available in this CD-ROM may be printed and distributed freely among colleagues and students, provided due reference is made to UNESCO as its source.



## Education for Citizenship

**Paris: UNESCO 2001. 1 brochure;**  
**1 CD-ROM; 4 3/4 inch. English, French, Spanish.**



Produced by the Documentation and Information Service Education Sector of UNESCO (email: [cdeducation@unesco.org](mailto:cdeducation@unesco.org)), this CD-ROM is designed to help students learn what is expected of citizens in society, and what are their duties, responsibilities and rights. It is meant to promote spiritual, moral, social and cultural development of young people, and in so doing, increase their self-confidence and sense of responsibility both in and out of the classroom. There are 180 terms defined and illustrated with examples, photos, graphs and video clips with definitions and references based on many different dictionaries and encyclopaedias and links to selected Websites. Some 152 articles and books by authors, some known worldwide and others not so well-known, have been highlighted for further reading; most of them are introduced in synopsis form while others are presented in full text. Included also is a selection of 41 declarations, recommendations and UN conventions adopted by the international community, such as the Universal Declaration of Human Rights, the Convention on the Rights of the Child and the Recommendation Concerning the Status of Teachers.

Six methodology guides are provided (only two are available in Spanish) for use in planning an approach to educating for citizenship in the classroom. It should be noted that these are not meant to be definitive methods, but guides only. There are also 78 learning activities adapted to different age groups at pre-primary and primary school levels, which cover such themes as rights and responsibilities, peace and non-violence, tolerance and the environment. Synopses for a selection of 42 videos related to citizenship education that have been produced or co-produced by international organizations and institutions are included as are the details to access them.

## Global Education Database (GED) 2000 Edition

**Washington, D.C.: U.S. Agency for International Development, 2000.**  
**1 CD-ROM; 4 3/4 inch. English.**

This CD-ROM provides access to education data that has been compiled by USAID (e-mail: [pinquiries@usaid.gov](mailto:pinquiries@usaid.gov)) from both the UNESCO Institute of Statistics and the Demographic and Health Surveys (DHS). This represents household surveys from more than 60 developing countries dating back to 1984. The data measure the performance of a country or group of countries over time in areas such as gender equity in school attendance and enrolments, adult literacy and educational attainment and in public education expenditures. Because the UNESCO and DHS methods of data collection differ, this edition does not allow the user to work with both country and indicator series together; each base of data must be accessed separately. The UNESCO section includes 175 indicators for specific years that have been provided by education ministries and UNESCO offices. Countries are divided among income groups according to per capita GNP in 1997 (as reported by the World Bank). The DHS statistics include indicators of adult literacy and attainment and primary and secondary school attendance, all by sex and urban-rural residence. They are compiled for specific years in which nationally representative DHS household surveys were conducted, with the most recent data collected in 1997. The GED program processes the user's selections and presents the data in both colour graphic and spreadsheet formats. Footnotes provide information on how the data are measured and compiled.



## Millennium Guide to Cultural Resources on the Web

**Paris: Lab Production, UNESCO 2000.**  
1 brochure; 1 CD-ROM; 4 3/4 inch. English.

Intended to operate as an interface between a personal computer and the World Wide Web, this CD-ROM facilitates access to more than 3,000 sites of cultural information available (in the year 2000).

The Guide presents selections representing virtual museums and cultural resources relating to heritage management. The CD-ROM is accompanied by the "World Culture Report, 2000". Included also are sections on cultural policy, cultural systems, cultural pluralism, cultural development, economic development, international relations, intercultural communication, intercultural education, mass culture, social conflicts, periodicals and guides. The objectives of the Guide are to facilitate access to cultural Websites, particularly those of developing countries; to monitor cultural diversity on the Web, to emphasize scientific bases of cultural knowledge and to widely disseminate this information; and to provide best practices for the development of cultural Websites.



## Early Childhood Counts

**Toronto: The Consultative Group on Early Childhood Care and Development, Ryerson Polytechnic University School of Early Childhood Education, in collaboration with The World Bank and in partnership with Aga Khan Foundation, Bernard van Leer Foundation, Christian Children's Fund, UNICEF and UNESCO, 2000.**  
1 CD-ROM; 4 3/4 inch. English.



This resource kit of materials on early childhood care and development (ECCD) offers tools for developing a wide range of programmes at the

pre-primary level to strengthen support for young children, their families and communities. It targets academic personnel, programme administrators, trainers, policy-makers and advocates working with children living in poverty and at risk of impeded development. Its purpose is to be useful for advocacy, policymaking and programme planning as well as a self-guided course on ECCD, a trainer's tool kit and resource library. It contains:

- 1) An extensive, easy-to-use programming guide that details the preparation, planning implementation, financing, monitoring and evaluation of diverse ECCD programming strategies;
- 2) Media materials, divided into two sections entitled "Why Early Childhood?" and "What is ECCD?", includes videos, slide shows and fact sheets aimed at raising awareness about the need for attention to ECCD; and
- 3) A library of more than 350 background texts, programme examples and other print resources on ECCD, along with a database.

For more information, e-mail [info@ecdgroup.com](mailto:info@ecdgroup.com).

## Safeguarding Our Documentary Heritage

**Paris: UNESCO, 2000**  
1 CD-ROM 4 3/4 inch; English, French.



One of the main goals of the UNESCO "Memory of the World" programme (e-mail: [a.abid@unesco.org](mailto:a.abid@unesco.org)) is to promote the preservation of the documentary heritage of mankind. Thus, a guide providing the recommended practices and listing the standards and reference literature related to preservation of documents of all kind was published by the Sub-Committee on Technology of the Memory of the World Programme. To distribute this guide

among a wider range of users, ideally as a training tool, UNESCO contracted the International Federation of Library Associations and Institutions to create this illustrated CD-ROM on the causes of deterioration of library collections and archival documents as well as on preventive measures that can be taken. The hypertext links provide access to other Internet sites dealing with similar information in the preservation field. The material has been a collaboration of many library and archive professionals and their institutions with scientific assistance from the Mission on Research and technology of the French Ministry of Culture and Communication and editing by the Memory of the World staff. Contents include environment and storage; disaster planning; graphic documents; photographic document and films; mechanical, magnetic and optical carriers; electronic publications, documents and virtual information; glossary; and Website directory.

## International Voluntary Services

**Korea: UNESCO, 2001.**  
1 CD-ROM; 4 3/4 inch. English.

Made available by the Korean National Commission for UNESCO/ Youth Unit (email: [youth@unesco.or.kr](mailto:youth@unesco.or.kr)), this CD-ROM provides the background and description of cultural projects available for young people looking for volunteer work through the UNESCO programme of "workcamps". More than 170 workcamps have been organized by about 100 organizations, including long-term and internship programmes. These are categorized by country, dates, duration, camp type and organization; and more than 130 organizations involved in UNESCO's youth volunteer programme are listed by country and name. The CD-ROM also includes comments and write-ups from former volunteers about their experiences. UNESCO's youth volunteer service is relatively new; it began in 1997 with young people volunteering to work on cultural heritage sites in China, Mozambique and Mexico. The Youth Coordination Unit of UNESCO was created in 1998. Now each project recruits 10 to 30 young volunteers from around the world; most positions provide food and lodging. The workcamps are designed to give young people a chance to explore opportunities that are not usually open to them and encourages the exchange of cultural and social contact between volunteers and host nations. Projects focus on themes such as of reconciliation, anti-racism, education, environmental protection, and promoting intercultural social learning and grassroots initiatives. Work areas include the environment, agriculture, construction, social activities and art/education. People targeted by some of these projects include handicapped, elderly and marginalized persons. UNESCO also takes in 38 volunteers in its field offices in all regions for one or two year internships. Information regarding application to all types of programmes is provided on the CD-ROM.



## EFA Worldwide

**Paris: UNESCO, 2000.**  
1 CD-ROM; 4 3/4 inch. English, French.



This CD-Rom was produced on the occasion of the World Education Forum in Dakar, Senegal, in April 2000, which was conducted to assess the progress made in education since the World Conference on Education for All (EFA) in Jomtien, Thailand in 1990.

EFA worldwide provides a first insight into the state of education today and its changes over the past decade. Data, in the form of core indicators chosen for the assessment, have been gathered by the UNESCO Institute for Statistics (e-mail: [uis@unesco.org](mailto:uis@unesco.org)) from more than 160 countries. Data on 17 indicators are presented in user-friendly interactive tables and graphs allowing information retrieval by indicator, country, region and/or year. Users can also consult background information on the EFA 2000 assessment including terms and technical specifications used in the assessment. The amount and quality of the data received from countries vary according to the indicator concerned and information explaining data quality is contained within the material.

## ESCAP Population and Development Programme

**Bangkok: Population and Rural and Urban Development Division, ESCAP, 2000.**  
1 CD-ROM; 4 3/4 inch. English.



This CD-Rom contains a copy of the Internet Website of the Regional Population Programme of ESCAP (e-mail: [debavalya.unescap@un.org](mailto:debavalya.unescap@un.org)), including a description of the Programme, ESCAP publications on population issues and papers presented at a regional ICPD+5 Meeting; full-text articles of the Asia-Pacific

Population Journal; and profiles of national and regional members of the Asia-Pacific Population Information Network (POPIN) and the POPIN Bulletin; the ESCAP Population Data Sheet; and various titles published under the Asian Population Studies series. Also included are training modules, which were developed and used at the Training Workshop on Information Technology for Population Professionals in Beijing, China, in November 1998 and in October 1999. The training workshops were conducted in collaboration with the China Population Information and Research Centre. Contents are divided among themes of training, conferences, information technology, population, rural population and urban population in Asia and the Pacific.