The Educator

Information and Communication Technology

Crossing the Digital Divide

A Publication of

ICEVI

The International Council for Education of People with Visual Impairment

Subscription to The Educator

As Readers will recall, following the July 2004 issue, The Educator will no longer be available free-of-charge to individuals. The subscription fee for a full quadrennium will be US$50. If you wish to receive a personal copy of The Educator for the balance of the current quadrennium please remit a check for US $ 25 made payable to ICEVI and mail it to: **Treasurer ICEVI, C/o. "Hong Kong Society for the Blind" 248, Nam Cheong Street, Shamshuipo, Kowloon, Hong Kong, China. E-mail: ce@hksb.org**

Note : ICEVI will continue to send The Educator to schools, societies and other organizations concerned with the education of the visually impaired at no cost.

*- **Steve McCall**, Vice-President, ICEVI and Editor, The Educator.*

Sports and Recreation for Persons with Visual Impairment
- Theme of the July 2005 issue of The Educator

Since the Golden Jubilee conference of ICEVI held in the Netherlands in July 2002, The Educator, ICEVI's biannual magazine, has been organised around thematic issues.   Recent issues have covered the themes of Literacy, Early Childhood Intervention, Inclusion, Multiple-Disability and Visual Impairment, and Information and Communication Technology. In recognition of the importance of promoting sports and recreation for persons with visual impairment, ICEVI and the International Blind Sports Federation (IBSA) signed a memorandum of understanding at the ICEVI executive committee meeting in February 2004 in Kuala Lumpur. The agreement included a commitment to include the promotion of sports activities in ICEVI projects, and also to devote one issue of The Educator to the theme of sports and recreation for persons with visual impairment. Enrique Perez, (former) President of IBSA will be the Thematic Editor of this issue. If you wish to contribute to the issue, contact **Steve McCall**, the Editor of The Educator, or **Enrique Perez** (e-mail: ibsa@ibsa.es) or the **Secretary General**.

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Letter from the President

December 31, 2004

Larry Campbell
President

Dear Friends and Colleagues:

*On this last day of the year as this issue of **The Educator** is readied for press the attention of the entire world is focused on the countries affected by the earthquake and subsequent tsunami that struck on December 26th. Like myself, I am sure you are all numbed by the consequence of this natural disaster and join me in extending your thoughts, prayers and concerns to our colleagues in the affected countries.*

*ICEVI has been monitoring, as best we can, through our Secretariat in India and our East and West Asia regional chairpersons the impact on our members and the children, youth and families they serve. As I prepare this letter, information is coming in slowly and is still very sketchy. We will continue to gather information and report on important developments on our website **www.icevi.org**. I urge all of you to be as generous as possible in support of the relief and rehabilitation efforts that are underway. No doubt by the time this issue of **The Educator** reaches your mailbox other stories will be dominating the news. This is precisely the time when we must not forget the long-term impact of this tragedy.*

Now let me share with you some encouraging news.

Last month I had the pleasure of representing you at The World Bank Disability and Development Conference in Washington, D.C. I left the conference encouraged by the attention that The World Bank is, at last, giving to the inclusion of persons with disabilities into ongoing development efforts. World Bank President, James D. Wolfensohn, acknowledged that the Bank has been late in "coming to the table" but he assured those gathered this was the start of serious and sustained effort.

With an estimated 600 million persons with disabilities worldwide, the Bank is acutely aware that they will be unable to achieve the millennium development goal of "poverty reduction" without addressing the inclusion of disability within on-going and planned development programs. Clearly the impact that Judy Heumann and her team at The World Bank Disability Unit are having is growing and ICEVI congratulates Judy for her work.

What does this mean for us? The World Bank is the largest and most influential international development donor. They support thousands of development efforts throughout the world and are a driving force behind the "Education for All" initiative.

The greatest challenge facing ICEVI is the development of effective strategies to encourage developing country governments to address the unmet educational needs of the nearly 90% of all blind and low vision children. Of course, we should not be naïve. This will not happen without a lot of pushing and prodding; but today we have a powerful ally in The World Bank.

I encourage all of you concerned with program development efforts, particularly those of you in the developing world, to learn more about the projects The World Bank is supporting in your country. Make yourself and the needs of blind and low vision persons known and included within all appropriate development initiatives supported with World Bank funding. With a "serious and sustained", ICEVI effort our goal of education for all children with visual impairment is achievable.

*I hope you will enjoy this issue of **The Educator** that focuses on a topic close to my heart and those of my colleagues here at Overbrook; technology as a powerful tool in enhancing education and employment opportunities for persons with visual impairment.*

In closing let me say that I hope 2005 will be a wonderful year for you and for ICEVI. Together we are making a difference!

Sincerely,

Larry Campbell
President

Letter from the Editor

Steve McCall
Editor

It wouldn't be right to begin this column without first thinking about all those affected by the Asian Tsunami. As news of the disaster broke, I was working on some of the articles submitted to the Educator from around the world. For the first time in many years in England there was snow on the ground at Christmas time – a surreal and incongruous background to the tragic news coming in from the Indian Ocean . As the scale of the disaster gradually became apparent, my immediate thoughts went to people in the region I have come to know through ICEVI. Through the internet I was soon able to establish that people I knew were safe and was able to read accounts from them about the latest developments in their region. It emerged that I was not the only one relying on the medium, the internet had become a key vehicle for bringing news of survivors to relatives and friends all over the world. Government websites kept people informed of developments and charities were using the internet to raise funds for relief.

It occurred to me how greatly this form of communication has changed my life at both work and at home, both for better and for worse. For example I love the way I can find obscure information instantly through the internet, information which would have taken hours of research in a library. I love the convenience of shopping through the internet and using internet banking. However I hate the way my inbox fills with emails so quickly, creating a constant source of concern and distraction that often diverts me from the task in hand – one of my New Year's resolutions is to tame this email beast.

Many of my emails are to do with ICEVI, and I wonder how the organisation ever managed without it. The internet is at the heart of the ICEVI networks of communication – as we will see in this issue, it was

the internet that made planning possible for the Lee Foundation initiatives during the SARS outbreak, when travel to meetings became impossible.

At work, as online learning blossoms in Universities fed by a wealth of online teaching resources, more and more of my teaching involves the internet. I have invested in Broadband at home to speed up my internet access and to cut down my phone bills. I was not sure about Broadband at first, but I now can't imagine how I ever did without it – it is on constantly. Each evening I vie with my teenage daughter for access to the internet - she wants to use it to communicate for hours with the friends she has seen at school all day (and occasionally to do research for homework), while I need it to catch up on the emails I missed at work.

As ever there are two sides to every story – technology brings people together but it can also drive them apart. In his article on the wonderful possibilities that DAISY technology offers to open up access to information for people with a visual impairment in India, Dipendra Manocha talks of "those persons with vision impairment who are fortunate enough to be sitting on the right side of the digital divide". Sadly, most people in the world with a visual impairment are currently on the wrong side of the digital divide. Even in industrialised countries, unemployment rates among adults who are blind are scandalously high and they are often the people least able to afford the technology that they need to get their foot into the digital door.

As we see in the article from B. Sudha Dinakar, the dreams young people have of careers in ITC are too often broken by lack of teaching materials in an appropriate format and stereotypes about the academic and careers paths that people who are blind should follow. It is becoming increasingly obvious that unless we can provide children with a visual impairment with the same opportunities as their peers to access and exploit technology, then they will remain

contd...

ICEVI

on the wrong side of this rapidly expanding digital divide.

My pessimism about the possible divisiveness of the digital explosion has been somewhat tempered recently, partly by the encouraging accounts emerging from around the world in this issue, but also because of an interesting exchange I witnessed at the Central American ICEVI regional conference in Costa Rica in October. One of the days was devoted to the topic of ICT. We had encouraging presentations about the impact that ICT was beginning to make on the education of children with a visual impairment in the region (eg see the article form Honduras in this issue). One memorable presentation on adaptive technology was made by a charismatic young teacher whose energy and enthusiasm brought a standing ovation. She was asked by a member of the audience "these developments are great, but we will never be able to afford them, they are like a dream for us." The teacher stopped and thought.

"Do you have a mobile phone?" she asked her questioner.

"Yes, of course, almost everyone does," he replied.

"Ten years ago did you ever dream you would have a mobile phone?" she asked again.

"No."

"Well then, why can't we dream that in ten years time all children with visual impairment will have access to technology like this?"

That's really the point – we can't predict how technology will develop in the future – let's all hope the dream that ICT will break down barriers to information and communication for people with a visual impairment comes true.

As ever my thanks to all the contributors to this edition, I'm sorry if I didn't get back to you quickly – blame my daughter.

Steve McCall

ICEVI - FACT SHEET

Mission

The International Council for Education of People with Visual Impairment (ICEVI), is a global association of individuals and organizations that promotes equal access to appropriate education for all visually impaired children and youth so that they may achieve their full potential.

History of the Organization

Founded in 1952 in the Netherlands, the ICEVI conducted its Golden Jubilee conference in the Netherlands from 28 July to 2 August 2002.

ICEVI Regions

The 7 regions of ICEVI and their coverage of countries are as follows:

Africa Region	:	52 countries
East Asia Region	:	19 countries
Europe Region	:	49 countries
Latin America Region	:	19 countries
North America and the Caribbean Region	:	15 countries
Pacific Region	:	14 countries
West Asia Region	:	25 countries

Currently, more than 4000 individuals and organizations in 170 countries are actively involved in ICEVI.

Networking with other organizations

ICEVI works closely with International Non-Governmental Development Organizations (INGDOs) and UN bodies such as UNESCO, UNICEF, and WHO.

Publications

ICEVI's biannual magazine "The Educator" is available in inkprint and Braille in both English and Spanish and is also posted on our website www.icevi.org. A Japanese language version is available in electronic format on the website. ICEVI also publishes a biannual electronic newsletter that is currently distributed to 4000 individuals and organizations in 170 countries.

Website of ICEVI

www.icevi.org

TSUNAMI UPDATE:
Impact on services to persons with visual impairment

The devastating Tsunami in the East Asian countries brought a sad end to the year 2005. Indonesia and Thailand, which come under the East Asia region of ICEVI and India and Sri Lanka, which are part of the West Asia region were the worst affected. The Tsunami had its effect in Malaysia, Myanmar, Maldives and countries in the Africa region such as Somalia and Kenya too. ICEVI expresses its deep grief to the friends in these countries. We are grateful to the individuals and organisations around the world that have come forward to help persons with visual impairment and the organisations serving these persons affected by the Tsunami. ICEVI through its regional chairpersons, country representatives and well wishers, is gathering information about the damage caused to services for persons with visual impairment in these countries. The information is slowly coming in and a comprehensive assessment of the situation will be available within a couple of weeks. In the meantime, we present before you the following facts.

According to a message from the Director of Special Education, the Ministry of National Education of the Republic of Indonesia, conveyed to us by our Indonesian colleagues, 14 special schools out of 36 were totally smashed by the disaster; two-thirds of the staff of provincial education office and a number of students are either missing or dead. The details regarding visually impaired children are being gathered.

Colleagues from Sri Lanka state that a party of twenty (including 16 blind persons) were travelling from Tangalle to Colombo when the Tsunami struck them. Unfortunately, twelve blind children, one teacher, and one assistant died. CBM has started to render emergency assistance in Sri Lanka where 4 project partners dealing with blindness in the East as well as in the South have been affected.

Fortunately, no damage has been caused to organisations serving persons with visual impairment in India. However, families of some children were affected. Voluntary organisations are working to identify the families that are in need of help.

Ms. Judith E. Heumann, Advisor, Disability and Development has informed Disability related organisations that the World Bank will be playing a large role in the region's reconstruction efforts and is currently making an assessment of the situation.

All the regions are currently involved in providing immediate relief in terms of food, shelter, clothes, and medication and the education and rehabilitation requirements will not fully emerge until the weeks ahead. Many organisations have expressed an interest in working with ICEVI to help rebuild educational services in the affected areas. ICEVI thanks those who have volunteered their assistance and will continue to pass on information through its website and publications as it comes in.

ICEVI

The Drs. Richard Charles and Esther Yewpick Lee Charitable Foundation Grant
- an update on developments

The Lee Foundation project was launched in 2002 at the Golden Jubilee Conference of ICEVI in the Netherlands, in the presence of more than 650 delegates assembled from over 70 countries of the world. The project had three key objectives

- *creating awareness of the capabilities of blind persons*

- *developing expertise and encouraging innovative practices among educators of blind persons*

- *helping teachers, parents, and other related professionals to provide better services to persons with visual impairment.*

The project seeks to benefit individuals with visual impairment in the Africa, Asia and Latin America regions and the greater part of 2002 was spent formulating the implementation strategies. In 2003 the Lee Foundation funded 79 separate ICEVI projects, most of which focused on skilling up teachers in local schools to meet the needs of children with visual impairment. These projects reached 3855 teachers and professionals and had a direct impact on over 59000 children with visual impairment.

By the end of 2003, requests from the ICEVI regions for support from the Lee Foundation had multiplied. Drawing on the experience gained during the first year of implementation, ICEVI decided to concentrate in 2004 on supporting areas identified by regions as crucial for their long term development.

These "impact areas" varied from region to region and the following selection provides a flavour of what has been achieved:

AFRICA

Based on a thorough needs assessment, the Africa Region identified three key areas for development:

- *Preparing teachers in mainstream schools to include children with visual impairment in their classes*

- *The teaching of Mathematics and Science to blind children*

- *Low Vision*

A series of regional workshops to address these areas were organized to prepare "master trainers" who in turn could provide training to others at the sub-regional and country levels. The master trainer programme for the education of children with low vision took place in mid-May 2004 with the support of additional funding from CBM and Sight Savers International. The master trainers have since gone on to launch programmes in 7 countries in the Southern Africa sub-region producing a "ripple-effect" of training which is a key element in ICEVI's strategy to achieve equal access to education for all visually impaired children.

In 2004 the Africa region implemented a total of 21 such projects and another 6 will be completed in early 2005 reaching a total of 644 teachers and professionals and an estimated 13,120 students with visual impairment.

By funding sub-regional meetings, The Lee Foundation has also helped build networks among the different nations of this vast region resulting in the development of a masterplan to expand educational services for children with visual impairment throughout the region for the year 2005-2006.

EAST ASIA

China, Indonesia, and Vietnam are the countries in the region with the largest populations of children with a visual impairment and these have been the main focus for the Lee Foundation grants.

For example in China, principals of special schools for blind children were brought together to develop strategies to provide access to education for greater numbers of children with visual impairment. The headteachers' willingness to embrace inclusive education has encouraged the East Asia region to plan orientation meetings across China based on an "Education for All" approach.

Indonesia, the third largest democratic country in the world, used the Lee Grant funding to develop an "Education for All Network" - a consortium of NGOs, Government bodies, and Professionals committed to the goal of achieving education for all Indonesian children with a visual impairment. A unique aspect of the work is the role taken by young persons with a visual impairment themselves in advocating for change.

Vietnam has also started developing models of inclusive education with the support of the Lee Foundation grant. In general, instead of focusing on local capacity building projects, the East Asia region has used the support from the Lee

Foundation to foster the development of policy at national level to promote education for children with a visual impairment as a human right.

LATIN AMERICA

The ICEVI Latin America region has concentrated on four areas of development:

- *low vision*

- *orientation and mobility*

- *early intervention*

- *education of children with multiple disabilities*

It has initiated 32 capacity building programs through the Lee Foundation grants, benefiting 1504 teachers and other professionals in 15 countries and helping 13265 children with visual impairment. In some countries, the ICEVI initiated programmes provided the first in-service training opportunities in visual impairment in many years. Lee Foundation Funding has also helped to develop Spanish versions of The Educator, The Lee Foundation Project Handbook and the ICEVI website. One of the main highlights of the year, the Central American sub-regional conference held in Costa Rica during October 2004, was attended by the President and some of the Principal Officers of ICEVI.

WEST ASIA

With the support of the Lee Foundation, the West Asia region has implemented training workshops for parents, adults with visual impairment, and teachers, but the main focus of its work has been upon the application of technology to support the education of children with visual impairment. The West Asia region has produced e-text versions of more than 120

books for use by students of higher education in the region. It has also organised a number of "master trainer" programmes to train staff in the use of technology to support persons with visual impairment.

The development of a uniform Braille code in Nepal is a project that will have a profound impact on the present and future education of Nepal's blind children, while Bangladesh is focusing its Lee Foundation grants upon training teachers to teach mathematics to blind children and Pakistan is formulating strategies for inclusive education. The countries from the Middle East have been given orientation sessions about the Lee Foundation scheme and projects are expected to be implemented in the subregion in the near future.

The West Asia region is holding its regional conference in New Delhi in January 2005, and this will be an opportunity for further capacity building and the formulation of country-specific strategies supported by the ICEVI/Lee Foundation.

RESEARCH

Another key objective of the ICEVI/Lee Foundation initiative is the formulation of best practice guidelines. ICEVI has undertaken a research project in Uganda to identify the critical factors that need to be in place to ensure success for children with visual impairment in local primary schools. Though the report will be not be ready until 2005, the interim results have already stimulated interest among other organisations and discussion is taken place about replicating the study in other countries both within the Africa region and other regions of the world. ICEVI believes that research based evidence is essential to provide Governments with effective models of education for children with visual impairment.

As can be seen from the evidence above, the ICEVI/Lee initiative has laid the foundation for ICEVI's mission of achieving education for all children with visual impairment by 2015. A continuation of this collaboration will be vital for capitalizing on the gains won during the current quadrennium.

ICEVI COLLABORATION WITH THE WORLD BLIND UNION

ICEVI was well represented at the 6th General Assembly of the World Blind Union held at Cape Town, South Africa from 6 to 10 December 2004. Larry Campbell, President, Lucia Piccione, Chair of ICEVI Latin America was there on behalf of CBM and Eberhard Fuchs, Chair of ICEVI Europe was part of the German delegation and all participated in the meeting. ICEVI and the WBU have also started an initiative to develop a standard list of equipment used by persons with visual impairment in their education and rehabilitation activities. WBU and ICEVI are also working on strategies to use DAISY as a system of information dissemination for children with visual impairment in an effort to further disseminate information on DAISY and DAISY standards.

REGIONAL UP-DATES

As we have seen in previous issues, the **Africa Region** has made a number of significant achievements during 2003 and 2004 both at the regional and sub-regional level. With financial support from Sight Savers International, the first regional committee meeting took place in Nairobi in February 2003. The sub-regional meetings began in March 2003 when the Southern Africa committee met and formulated action plans for implementation of educational services across the southern region.

The West Africa sub-region meeting was held in Ghana and was attended by representatives of ICEVI and international non-governmental development organizations concerned with education and rehabilitation. As well as considering proposals under the Lee Foundation grant, the region also explored the possibility of linking other leading funding agencies into ICEVI's campaign. CBM and SSI are already working in close partnership with ICEVI and the regional and sub-regional chairs are approaching other organizations such as the Hilton Perkins Program, Bartimeus and the Force Foundation to co-fund projects proposed by ICEVI.

In December 2003 The Secretary General and the Regional Chairperson of Africa region met in Nairobi to discuss strategies for the region for the next two years. In addition to encouraging collaboration, effort will focus on persuading Governments to take account of visual impairment in their planning of educational services. Because of the vastness of the region, which includes 52 nations, it was agreed that ICEVI strategy should be to support demonstration projects in a few countries at a time and gradually spread successful initiatives across the region. Awareness across the entire region will continue to be promoted through the development of practical handbooks and brochures.

In May 2004 the hugely successful Africa Forum was used as a launching pad for many of the ICEVI-related activities in the region. The organizers of the Africa Forum generously provided ICEVI with opportunities to address delegates across various sessions. The "Friends of ICEVI" meeting held during the Africa Forum was attended by members from many parts of Africa who pledged to promote the objectives of ICEVI in their own countries. One of the most significant achievements was the development of a "quadrennium plan" for the region, and Sight Savers International and CBM International have since come together to explore the possibility of supporting projects in the plan. The ICEVI Africa Regional Committee meeting also took place on 28 to 29 May 2004.

One of the notable features in the **East Asia Region** has been the support offered to parent groups such as the Parent Advocates of Visually Impaired Children (PAVIC) in the Philippines. 2003 saw the region implement a range of programmes under The Lee Foundation Scheme in the Philippines, Indonesia, and China, and the region is continuing its campaign to encourage parents to seek to enroll their children with visual impairment in local schools. Although progress in the region was threatened during the first part of 2003 with the outbreak of SARS, planning was able to continue through electronic media and allowed the momentum to be sustained.

ICEVI

The President of ICEVI undertook an extensive tour in the region in May 2003 and discussed ICEVI activities with the representatives of Governments, voluntary organizations and funding agencies in Thailand, Cambodia, Vietnam and the Philippines. The President and the Secretary General also held a meeting in Bangkok promoting the ON-NET/ICEVI mathematics project. The project is nearing completion and the mathematics pack for children with visual impairment will be available shortly.

The regional committee met in Kuala Lumpur, Malaysia in August 2003 and the East Asia region successfully revised its entire database with the help of country representatives. A Task Force consisting of representatives from the industrialised countries in the region (Hong Kong, Malaysia, Singapore and Japan) was formed to establish the status of educational services available in other member countries in the region, especially Myanmar, East Timor Leste, Laos and Cambodia. In addition to the projects supported by the Lee Foundation, ICEVI China has undertaken a project in collaboration with the Ministry of Education to publish a range of booklets dealing with of education of visually impaired children.

The East Asia Regional Conference will be held in Bangkok from 20 to 23 February, 2005 hosted by ICEVI Thailand. The region is also proposing that the countries conduct surveys to identify the number of persons with visual impairment who require educational services. A quadrennium plan for ICEVI activities in Vietnam has been finalized and the East Asia region has facilitated networking between voluntary and government organizations in Indonesia to encourage joint initiatives in the provision of services to persons with visual impairment. With the 12th world conference of ICEVI planned for Kuala Lumpur, Malaysia, the region will continue to maintain a high profile!

The **Europe Region** continues to promote its work through its own website and regular regional newsletter. The regional committee held its second meeting in May 2003 in France where a number of issues such as regional membership were discussed, and plans were laid for a European Conference. This was followed by a third regional committee held in Barcelona in May 2004 where, besides reviewing sub-regional activities, plans for regional fundraising and the development of a regional membership structure were developed further. Three major events - a successful teacher trainer workshop held in Dortmund during July 2004, a Teacher Training Seminar held in Budapest in September 2004, and a Balkan Conference in October 2004 held in Belgrade were among the highlights of the regional activities. The 5th European Conference will be held from 14 to 18 August 2005 in Chemnitz, Germany. For further details of these events and of other initiatives in the European region visit the ICEVI European website **www.icevi-europe.org**.

ICEVI Europe was also represented at the International Congress for staff working at institutions or in the field for visually impaired people in Dortmund University, Germany, which was attended by nearly 900 people from 17 European countries. The Regional Chairperson also met with Mr. Rafael Gonzales, who is responsible for international activities of ONCE and appraised him of the work of the Europe region in Spanish speaking countries.

The **Latin America Region** has a well established regional network and regular meetings continue to take place at the sub-regional level, as the region pursues the quadrennium plan of action drawn up in early 2003. The region has focused on providing training programmes for teachers in the areas of the education of children with low vision, services for

children with multiple disabilities, orientation and mobility, and curriculum areas and has translated relevant texts into Spanish for local teachers and other professionals. The region is implementing its projects in collaboration with various Government Agencies, CBM and other voluntary bodies, and ONCE has also expressed a strong interest in working with ICEVI to support activities in the Latin America region. The region has published a version of the ICEVI Strategic Plan in Spanish and the Spanish version of the ICEVI website is now complete.

Building on the success of the 'Sub-regional Congress on Early Intervention' held in Bolivia in 2003, the Central American sub-region held its conference in Costa Rica in October 2004. The Conference was attended by Larry Campbell, President, Steve McCall, Vice-President, Bill Brohier, Immediate Past-President and many other officers of ICEVI and CBM. The region has also taken up the task of translating The Educator into Spanish language. For more information about the region, log onto **www.icevi-americalatina.com.ar**.

The **North America and Caribbean Region** continues to collaborate with a range of organizations including the American Foundation for the Blind, Lighthouse International, RNIB (UK), RVIB (Australia), Hadley School and the Canadian National Institute for the Blind.

Concerns about the shortage of specialist teachers for children and young people with a visual impairment and about the future of specialist teacher training remain high on the agenda for the region, and work is taking place to identify the number of specialist teachers needed in the three sub-regions.

Another major area of activity for the region has been support for parents. Dr. Susan LaVenture, one of the key coordinators of Parents' Movement in ICEVI, who is also the Executive Director of USA National Association for Parents of Visually Impaired Children (NAPVI) has been assisting parents in Canada to establish their own association.

ICEVI members took an active part in the "Getting in Touch with Literacy" conference held in Vancouver in December 2003 and at the AERBVI International Conference held in Orlando, Florida in July 2004 where Drs. Susan Spungin of the American Foundation for the Blind, Michael Bina of Hadley School for the Blind, and Kathleen Huebner of the Pennsylvania College of Optometry presented a joint poster session on ICEVI. Kathleen Huebner, Regional Co-Chair, received the Mary K. Bauman Award for outstanding contributions to education and Dr. Diane P. Wormsley received two awards from two separate divisions of AER. ICEVI extends its congratulations to Kathy and Diane on these deserved honours.

The first committee meeting of the **Pacific Region** in this quadrennium took place at the regional conference of the South Pacific Educators of the Visually Impaired (SPEVI) in January 2003 and plans were drawn up for the further involvement of ICEVI in the promotion of services in the region. ICEVI also sponsored a pre-conference workshop for 8 delegates from the Pacific Islands on subjects such as the education of children with low vision, orientation and mobility and teaching mathematics. Delegates from Fiji, the Solomon Islands, Papua New Guinea, the Cook Islands, Samoa and Kiribati attended the workshop. The work of ICEVI in East Timor was also presented during the regional workshop. The SPEVI Newsline includes further news items relating to ICEVI, and ICEVI has been invited to make a presentation about its activities in the forthcoming SPEVI conference January 2005.

The **West Asia Region** has been actively involved in both capacity building programmes and development projects such as those relating to Community Based Rehabilitation and the impact of Information Technology on educational services for persons with visual impairment.

The West Asia region has the largest number of persons with visual impairment in the world and the region is encouraging country representatives to work closely with Government organizations to expand services for the visually impaired.

2003 was a busy year in the region with the official launch of the Lee Foundation Projects at the Blind Peoples' Association (BPA), Ahmedabad; country level meetings in India and Bangladesh and the West Asia regional committee meeting in Katmandu, Nepal. The regional committee also launched a campaign to persuade governments in the region to include education of visually impaired children in their Education For All network, and the Regional Chairperson took part in the national consultation to discuss the Biwako Millennium Framework organized by the Government of India in October 2003. West Asia is holding its regional conference from 23 to 25 January 2005 in New Delhi, India.

Most of the countries of the former Middle East region are now members of the West Asia region and the Regional Chairperson is in touch with these countries to create an ICEVI network. He also visited the Middle East Countries to encourage networking and the planning of projects. For more information about the West Asia region, log onto **www.iceviwestasia.org**.

Congratulations Susan !

Dr. Susan Spungin, Regional Chairperson of ICEVI, North America and Caribbean has been elected as the Treasurer of the World Blind Union. Congratulations Susan!

Congratulations Dr. William Rowland, the new President of WBU

ICEVI congratulates **Dr. William Rowland,** Executive Director of the South Africa National Council for the Blind who was recently elected as the new President of the World Blind Union. Dr. Rowland is well known for his work on behalf of blind persons around the world. He has worked closely with ICEVI on various initiatives over the years including the recently published joint education policy document of the ICEVI and WBU. ICEVI is looks forward to further strengthening and expanding collaboration with the WBU under the leadership of Dr. Rowland. As the President of the World Blind Union, Dr. Rowland becomes a member of the ICEVI executive committee. Welcome to the ICEVI family, Dr. Rowland.

World Bank Initiative

The World Bank is looking to take a greater account of the needs of persons with disability in their on-going development programs. Larry Campbell, President, represented ICEVI at a recent meeting on **"Disability and Development"** convened by the World Bank meeting in Washington from 30 November to 1 December, 2004. He has also met with members of the World Bank Disability Team over the past few months to discuss making the goal of education for all children with visual impairment achievable. ICEVI is looking to develop creative partnerships with development programmes supported by the World Bank. The executive committee of ICEVI will look at this matter when they meet in Madrid in March 2005.

Message from the President - World Blind Union

William Rowland
WBU President

It is an honour to deliver this my first message to THE EDUCATOR readership. You represent a constituency of the utmost importance to blind people and therefore to the WBU itself and over the next four years I hope to be forging even closer ties with IECVI.

*If we were to do one thing only to the benefit of blind people, cancelling all other programmes, it would have to be to educate. In my own country, South Africa, the transition from special schools to inclusive education presents many challenges. As someone who received his education at an excellent special school, I am particularly concerned to see quality maintained, braille literacy taken seriously, and social separation ended. **Worldwide we need the authority of an ICEVI and the activism of a WBU** to achieve realistic government policies and properly resourced programmes of inclusive education, as opposed to doctrinaire implementation.*

My first intention as WBU President is to take the organization through a rigorous strategic planning process. I am confident that this will give new impetus and direction to our work and help us to refocus on our core business, which is to build a worldwide movement of blind people, organized to speak and act on their own behalf. I am informed that ICEVI has itself greatly benefited from a similar exercise and I am therefore looking forward to consulting with your President, my respected colleague and long-time friend Larry Campbell, on our strategic review. As individuals and organizations we have much to learn from each other.

- WILLIAM ROWLAND

ICEVI

IAPB General Assembly – Update

The International Agency for the Prevention of Blindness (IAPB) is making substantial progress with its Vision 2020 programme. The programme, which was launched in collaboration with the World Health Organisation, aims to stamp out avoidable blindness by the year 2020. In recognition of the fact that the needs of persons with visual impairment are often complex and wide ranging, the IAPB invited a number of organizations involved in education and rehabilitation to its General Assembly held in Dubai in September 2004. The Assembly provided an excellent opportunity for medical professionals to interact with those in the fields of education and rehabilitation and to discuss a range of issues including ways in which support can be provided for persons with visual impairment whose sight cannot be improved or restored through medical intervention. ICEVI organized a symposium during the IAPB General Assembly, which was attended by Kicki Nordstrom, the then President of the World Blind Union and Dr. Hannah Faal, outgoing President of IAPB among others. An ICEVI poster session was arranged and was visited by a majority of the medical professionals in attendance. ICEVI suggested that issues relating to education and rehabilitation be included in the plenary sessions of future IAPB conferences so that medical professionals in the field of prevention have more opportunity to familiarize themselves with the work of colleagues in these related disciplines. ICEVI is in the process of finalizing a perspective plan to achieve education for all children with visual impairment by 2015, and IAPB's strategies for success provide helpful models that ICEVI can draw upon in its planning.

ICEVI extends its congratulations to Dr. Gullapalli Nag Rao from the LV Prasad Eye Hospital in India on his election as the President of the IAPB for the period 2004-08. Dr. Rao is a visionary and a strong advocate of the involvement of education and rehabilitation in eye care services. We are delighted that he has also accepted our invitation to address a plenary session at the 12th ICEVI World Conference in July 2006 at Kuala Lumpur. ICEVI is also very pleased that Mr. Christian Garms, Executive Director of Christoffel Blindenmission has been elected the first vice-president of IAPB. Both Dr. Rao and Mr. Garms are familiar with the work of ICEVI and we look forward to IAPB's links with ICEVI becoming even stronger in the years to come.

The ON-NET Mystery

In this "alphabet soup" world of acronyms, here is one more for you to master; ON-NET You may remember seeing this acronym in prior issues of **The Educator** but unless you live in Southeast Asia or spend a lot of time with those working with the Overbrook International Program, you may not know what it stands for. Since this issue of **The Educator** is devoted to technology we thought it might be a good time to solve this mystery. ON-NET stands for the Overbrook-Nippon Network on Educational Technology. Still, scratching your head wondering what that means? We hope this helps.

In 1998, the International Program of the Overbrook School for the Blind and The Nippon Foundation joined forces to work on a regional initiative in Southeast Asia that would make new developments in the field of assistive technology for the blind more accessible to children and adults with visual impairment, their parents and their teachers. This regional initiative is built on a simple principle; if we can provide those working with assistive technology in Southeast Asia opportunities to come together to share ideas and information then everyone will progress more quickly in the use of these powerful tools for education and employment.

For the past six years ON-NET has worked in eight countries in Southeast Asia identifying and addressing challenges that face blind persons, teachers and parents in understanding and accessing these new technologies. The program works at both a national and regional level. In all instances it works with and through existing government and non-government organizations; including many organizations of the blind.

The challenges ON-NET is addressing include, but are not limited to: –training of trainers, teachers and parents, –developing training materials, –developing or adapting software to meet local language needs, –increasing access to computerized braille production, –increasing the number of technicians trained to maintain and repair these technologies, –opening new job opportunities for blind persons and influencing public policy related to assistive technology for persons with visual impairment.

One of the barriers that ON-NET identified as impeding the ability of blind persons to access higher education in certain fields of study, particularly the sciences and technology, was their weak foundation in mathematics.

It will come as no surprise to our readers that this weakness does not arise from any innate weakness among blind students but rather from the fears and inadequacies of their teachers in providing higher level mathematics instruction. So ON-NET and ICEVI have come together to address this challenge. Before the year ends a new comprehensive curriculum and a set of training materials will be available from ON-NET and ICEVI. Watch the websites of Overbrook **www.obs.org**, ICEVI **www.icevi.org** and ON-NET **www.on-net.org** for further updates.

For further information about ON-NET you may contact: **larry@obs.org** or **onnet@samart.co.th**.

So, **MYSTERY SOLVED!** Now you have one more acronym in your arsenal that you can toss around at your next professional gathering to impress and/or stump your friends.

ICEVI

ICEVI 12th World Conference - Update

Arrangements are in full swing for the forthcoming ICEVI World Conference to be held in Kuala Lumpur from 16 to 21 July 2006. A reasonable registration fee, sessions from leading academics and practitioners, affordable hotels, excellent flight connections, and nice weather – what more could you ask? Be inspired and enjoy the experience of a lifetime - come to Malaysia for an experience that is "truly Asia". For the first time ever, you can submit your abstract or register through the internet. Just click "**12th World Conference**" on the menu bar of ICEVI's website www.icevi.org for further instructions and see how exciting the 12th world conference will be. All plenary and focus day speakers have been confirmed and following the Call for Papers published in the July 2004 issue of The Educator, abstracts are already starting to roll in.   The latest meeting of the local host committee of the world conference was held on December 22, 2004 in Bangkok and arrangements are being facilitated by a professional conference organizer. The committee have put in place measures that will allow you to register securely and speedily by credit card (**see P17 for general information**).

ICEVI 12th World Conference

Putra World Trade Centre, Kuala Lumpur, MALAYSIA

16-21 JULY 2006

Registration - General Details

The 12th World Conference of ICEVI will be conducted at **Putra World Trade Centre, Kuala Lumpur** from **16 to 21 July 2006**. The Malaysian Association for the Blind (MAB) is the host organization of the conference. The Registration and Accommodation arrangements are being looked after by the MAB whereas the ICEVI Secretariat looks after the submission of Abstracts.Here are the details regarding Registration and Accommodation:

Registration Fee

The Registration Fee for the Conference is as follows:
- Registration **before 15 March 2006 - US $ 450**
- Registration **after 15 March 2006 - US $ 500**
- Accompanying person - US $ 150

Registration Fee may be paid to MAB Conference *Account No 0061-10-002875-0 (Name of the account 'Malaysian Association for the Blind – ICEVI 2006, Name of Bank 'EON Bank Bhd'*, Address of Bank: Brickfields, Kuala Lumpur, Malaysia, Swift code: EOBBMYKL) through electronic transfer or bank draft or through **credit card to be advised later by Host Committee**.

Hotels

The following hotels are suggested for accommodation (rates are for one room, if twin sharing please indicate):

1. **Pan Pacific Hotel** - US $ 60 per night (4 star rating – 525 rooms – connected to PWTC on Level 2)
2. **Legend Hotel** - US$ 48 per night (5 star rating – 572 rooms – walking distance - 7 minutes)
3. **Dynasty Hotel** - US $ 40 per night (4 star rating – 700 rooms – walking distance 12 minutes)
4. **Grand Pacific Hotel** - US $ 22 per night (2 star rating – 180 rooms – walking distance 10 minutes)

Conference Languages

The official language of the conference will be English. During the main sessions and some of the parallel sessions, simultaneous translation will be available in Japanese, Chinese and Spanish.

Post Conference Workshops

The host committee is planning for post conference workshops on Low Vision, MDVI and Early Childhood Intervention. More information on this will be posted on the ICEVI Website.

Tours

Tours may also be arranged to the following places on request. For cost and other details, send a separate request to the Host Committee.
1. Putrajaya (Wetlands, Lake, Mosque, Administrative Capital)
2. KL Tower, KLCC & Twin towers
3. City tour/Parks – Birds, Butterfly, Museum

Exhibition Stalls

The fee for organizations willing to put up exhibition stalls is US $ 1000 and for International Vendors it will be US $ 1500

Official Airline

Malaysian Airlines is the official airline of the conference.

For further details, contact:

GEORGE THOMAS, Executive Director
MALAYSIAN ASSOCIATION FOR THE BLIND
Kompleks MAB, Jalan Tebing, Off Jalan Tun Sambanthan 4, 50470 Brickfields, Kuala Lumpur, MALAYSIA
Tel: + 603 22722677 or + 603 22722680. Fax: + 603 22722676
E-mail: icevi2006@mab.org.my or mablind@po.jaring.my

ICEVI 12th World Conference

Frequently Asked Questions (FAQs)

Based upon the experiences of previous ICEVI and other international conferences, members of the Programme Committee have put together a list of Frequently Asked Questions (FAQs) and appropriate answers. Please look through the FAQs to see if your query is answered before you contact the Registration Office or ICEVI Secretariat. If your question is not here please e-mail the ICEVI Secretariat on **sgicevi@vsnl.net**.

Q1. *Do I have to pay a registration fee if my paper or poster is accepted?*

Ans. *Yes, all participants are required to pay the registration fee. However, there are a limited number of supported places available.*

Q2. *I would like to participate in the conference but cannot afford to do so. Is ICEVI offering any assistance to persons like me?*

Ans. *A Scholarship Committee headed by the ICEVI Treasurer has been formed. This Committee will raise funds to help provide support to persons who otherwise would not be able to participate. Application criteria and details related to the selection process for this 12th World Conference Scholarship Scheme will be posted on the ICEVI website and published in the July 2005 issue of The Educator. As in the past Regional Committees will manage the distribution of these scholarship funds in collaboration with the Scholarship Committee.*

Q3. *If there are 2 or more people presenting the same paper/poster or workshop, do they all have to pay a registration fee?*

Ans. *Yes - see Question 1. However, if you only wish to attend for the day of your paper, there will be a Day registration fee. Please make sure that all the authors are entered on the Abstract Form.*

Q4. *Can I send in more than one paper or poster?*

Ans. *Yes! Please make sure that for each paper or poster you have filled in an Abstract Form. Whilst all papers will be considered on merit, it may be necessary to limit the number of papers to two per presenter.*

Q5. *Will any preference be given to papers from different parts of the world eg., Developing Countries?*

Ans. *The papers will be selected on merit and quality. However, every effort will be made to ensure a regional balance. There will be an additional opportunity for papers with a special regional focus to be presented on Monday afternoon.*

Q6. *If I have not followed the instructions for completing the Abstract Form will I be penalised?*

Ans. *Priority will be given to those Abstract Forms completed correctly. Due to the tight deadlines the Programme Committee cannot guarantee that such Abstract Forms will be considered. Please take every effort to follow the guidelines for completion to save yourself disappointment.*

Q7. I do not have a typewriter or word processor. Can I handwrite my Abstract?

Ans. Sorry, no! Only typed or word processed Abstracts will be accepted.

Q8. Can the presenters bring their own audio-visual equipment?

Ans. Yes, with the prior approval of the Registration Office

Q9. Is it possible to present a paper or poster on a topic not mentioned in the first Call for Papers?

Ans. Generally, the Programme Committee will give preference to those papers on the areas included in the focus areas. However, any paper of exceptionally good quality and relevant to the theme of the conference may be considered. Please make this clear on the Abstract Form.

Q10. If it is accepted, can I change my paper?

Ans. Once the final paper has been received, it will not be possible to make major changes in the paper. If you are considering major changes from the acceptance of your Abstract to submitting your final paper eg., change of topic/focus then it is important you contact the Programme Committee for guidance. Minor changes and updating of the information are acceptable.

Q11. My English is not very good. Can I submit my Official Abstract Form in a language other than English?

Ans. Sorry, no! While plenary sessions will have translation in Chinese, Japanese and Spanish, prior to the conference we will not have access to professional translation services. Therefore we must ask that all abstracts be submitted in English.

Q12. I am not sure how to write an abstract, is there anyone who can help me?

Ans. Some guidance is given on this website, please look at 'An Example of an Abstract.'

Q13. Can I present my paper in a language other than English?

Ans. For a few high quality parallel 'lecture type' sessions, it may be possible to present in Japanese, Chinese and Spanish. If simultaneous translation is not available, then participation at these sessions will be restricted to those understanding the chosen language. All plenary sessions have simultaneous translation facilities into English, Japanese, Chinese and Spanish.

Q14. In the Call for Papers document it states that presentations should be 15-20 minutes in length. Can you explain further please?

Ans. The actual time for presentations is 30 minutes so the suggested time of 15-20 minutes allows for approximately 10 minutes of question/discussion time. It will not be possible to exceed this allotted time.

Q15. If I wish to present a 'hands-on' workshop, am I limited to 30 minutes?

Ans. Interactive workshops will be allocated 45 minutes, and in exceptional circumstances, 60 minutes. Please make it clear on the Official Abstract Form how you intend to make your workshop a 'hands-on' experience.

Q16 Will there be a range of hotel rooms to suit different budgets?

Ans. Yes, please contact the Registration Office on **mablind@po.jaring.my** if you do not find what you want on this website.

A thought sheet on Information Technology Education for Persons with Visual Impairment

(A summary of the contribution made by ICEVI to the high-level Inter-Governmental Meeting held in Otsu City in October 2002)

Technology is arguably even more relevant in special education than it is in general education because the power of technology is that (1) it makes the complex simple; and (2) it addresses the individual needs of the learner. Technology has a wide range of applications in the education of persons with visual impairment and the use of appropriate technology can reduce barriers in both study and work environments, enhancing the learning and earning potential of persons with visual impairment. Potentially, technology can also be used to reach out to the large number of persons with visual impairment who are currently deprived of any educational and vocational opportunities.

Disability challenges individual in different ways. In the case of people who are blind, there is a wide range of adaptations currently available to make technology accessible through hearing and touch, however these adaptations would be less essential if technology had access for persons with disabilities built-in at the development stage. Research studies abound to substantiate the fact that the quality of learning for all people improves when communication is available through a range of channels and it is reasonable to suggest that digital audio materials should be automatically supplemented by text and visual descriptions, and video materials should always be supported by audio commentary and text. Hardware design too should prioritize ease of operation so that persons with motor difficulties such as cerebral palsy can access devices. Bio-feedback technology could also be incorporated to improve the pace and quality of learning for people with learning disabilities.

Technological adaptation can be seen as a four-stage strategy. Firstly, duplication, ie the provision of standard technology fully accessible to persons with disabilities. When duplication is not possible, modification of technology can be tried. When modification is not possible, the outcomes of the learning tasks can usually be achieved through the provision of suitable alternative experiences.

It is only in very rare cases that tasks cannot be adapted for persons with visual impairment. For example, although adaptive devices help some people with physical impairments to drive legally, many persons with a visual impairment will be excluded by law from driving because of their disability.

Technology has the potential to become a vehicle to make education for all children with disabilities a reality in developing countries, but at present, although distance education offered through technology is accessible to persons with locomotor disabilities, it often remains difficult for people with sensory impairment to access. In the absence of print, video or audio materials in accessible formats, blind and deaf persons often find studying through distance impossible. Course providers should automatically focus on providing distance materials in multiple modes so that as many children and young people as possible can access education.

Already, the Internet has opened many new avenues for education and has brought information to the doorstep of the individual. With suitable adaptation, the Internet can be used by persons with visual impairment not only to expand their access to information, but also to acquire higher qualifications and even set to up their own businesses. There is a wide range of specialist adaptive software and devices that can bring access to the internet for persons with visual impairment but unfortunately these devices are often costly, and globally, very few persons with a visual impairment can afford

them. These adaptive devices may need to be developed locally at an affordable price before large numbers of persons with visual impairment can enjoy the benefits of modern technology.

Information technology may not reach persons with visual impairment at all unless they are given opportunities to become IT literate. IT components should have a prominent place in the curriculum of both special and mainstream schools. Any open school system must offer courses in IT for persons with visual impairment but traditionally, most courses available to persons with visual impairment are focused in the arts and humanities. This has created an impression among many students with visual impairment (as we can see in the article in this issue from India) that high level technology-oriented courses are not for them. This is not true - the reason why students with visual impairment are not opting for these courses is often because they know they will not receive course materials and instruction in accessible formats. If the right facilities are made available, persons with visual impairment will choose technology courses in large numbers.

Even when persons with visual impairment do manage to become IT literate, they face big question marks. Employers are still not open to appointing persons with visual impairment for jobs that demand technological expertise and negative attitudes to disability continue to obscure the potential of persons with visual impairment. Is it unreasonable to expect that some

specific IT related jobs should be earmarked for persons with visual impairment in order to generate opportunities in this potential growth area?

In summary, the following suggestions should be considered in relation to information technology and persons with visual impairment.

1. *Information should be provided in a range of modes for the benefit of all users.*

2. *Assistive devices for improving access to technology should be available where necessary, but the needs of all potential users should be considered at the original design stage.*

3. *The indigenous production of devices should be encouraged to increase the affordability of technology to persons with visual impairment.*

4. *The curriculum for persons with visual impairment should be modified to include information technology as a key element.*

5. *Open learning systems should offer courses in suitable media for persons with visual impairment and should include information technology oriented courses.*

6. *Some IT related jobs in public and private sectors may need to be earmarked for persons with visual impairment.*

7. *In order to promote awareness of information technology among persons with visual impairment, organizations for and of the visually impaired should inculcate an IT culture into their activities.*

The potential for the application of information technology in the education and welfare of people with disabilities is huge and it promises real opportunities for reducing exclusion. ICEVI is determined to work towards making appropriate technology available for persons with visual impairment, and in this respect, we look forward to effective collaboration with other organizations around the world.

Inviting Organisations to join ICEVI for EFA Campaign:

In order to strengthen its global campaign of education for all, ICEVI is inviting organizations around the world to become ICEVI subscribing members. During the first phase, leading organizations identified by ICEVI regional chairs will be invited to join the campaign. If your organization would like to learn more about becoming a subscribing member please contact either Mrs. Grace Chan, JP (ICEVI Treasurer) ce@hksb.org.hk or the ICEVI Secretariat sgicevi@vsnl.net. Why not enroll your organization as a member?

ICEVI's Network in North Africa

ICEVI believes that strong networking at the regional level is essential to enhance services for persons with visual impairment. ICEVI has been concentrating on promoting networks in all seven of its regions and the results have been very rewarding. These networks have enabled the formulation of appropriate policy, the sharing of human resources, the exchange of knowledge, materials, and technology and a range of other benefits. ICEVI has recently been devoting energy to building a strong network in the North Africa Region and in this connection, the Secretary General Dr. Mani, and Dr. Sawsan El Messiri, ICEVI Deputy Regional Chairperson, attended the meeting of the northern Africa sub-region of the International Agency for the Prevention of Blindness (IAPB) in Tunis, Tunisia on 26 to 27 November 2004. At the meeting they made a presentation on the need for medical professionals and educators to work together to augment educational services for persons with visual impairment. The meeting was also an opportunity to establish contacts with medical professionals, educators, government agencies, parents, disabled peoples' organizations,

etc in various countries across the North Africa region who all proved willing to promote ICEVI activities.

Following the meeting, an orientation programme on methods of teaching and including children with visual impairment was organized at the Al Noor Foundation, Cairo, on 12-13 December 2004. The programme was attended by more than 80 persons, including policy makers, teacher educators, specialist teachers and general classroom teachers. The Director General of Special Education, Arab Republic of Egypt attended the meetings on both days, and asked that similar events be organized by ICEVI in the future to help promote educational services for children with visual impairment in Egypt. ICEVI is hopeful that the recent momentum generated in the North Africa region will go a long way to providing effective services to persons with visual impairment in the region.

ICEVI

Technology for All :
Assistive Technology in the Classroom

Bernadette M. Kappen
Director, Overbrook School for the Blind, Philadelphia, PA, U.S.A

Over twenty-five years ago Alvin Toffler predicted in *Future Shock (*1970) that we could expect waves of change to come faster and faster. Human beings, he told us, accustomed to gradual change over thousands of years, had now refined their use of technology. Today, the most fundamental and powerful technology is digital technology, which is revolutionizing the way people produce, store, retrieve, and use information.

Looking at how the world at large is using technology is essential when planning educational programs for children who are blind and visually impaired. We all know that access to print material is a major issue for the children we work with. Creating a program for technology use in a local school or on a national level takes planning. In 1996 Overbrook began a multiple year project to provide appropriate technology to all the students. The plan contained three parts: researching and acquiring the hardware, researching and acquiring software, and training

teachers and support staff. In the plan we looked at the design of the classroom as essential to the success of the program. Incorporating technology into the classroom meant changing the traditional desk environment, where students use only books and the braillewriter, into an environment capable of providing appropriate fiber optics, electrical connections, telephone connections, furniture, and lighting.

Overbrook's Plan

At Overbrook School for the Blind (OSB) all of our students are visually impaired and approximately half of them have a wide variety of additional disabilities. Our philosophy is that technology is for all and this includes young children with multiple disabilities, as well as the more typical learner.

For typical students, and for some students with additional disabilities, technology improves their ability to learn by providing the opportunity to do research on the Internet, write reports with Microsoft Word, and communicate with peers via e-mail. Technology gives all students access to communication and social interaction that was not previously available to them. On the high tech end, it might mean using a screen magnification program, a refreshable braille display, or a speech synthesizer; for low-tech users, it might be

a recorded message and switching device. But technology will meet the students' needs only when the staff uses it creatively, adapting it to the needs of each individual student, and this may be after much trial and error.

Getting Started

In setting up the program at Overbrook, we tried to create the following foundation:

- Each student was provided with assistive technology based on his or her unique needs.

- An appropriate team—including teacher, occupational therapist, physical therapist, speech therapist, and parent—met to discuss the child's needs and select the devices that would best meet those needs.

- The teachers and staff were given extensive training in the use of hardware and software. The training created the philosophy that technology was to be integrated into the curriculum.

- The teachers and staff were given support to ensure their comfort level and to help them develop the competencies needed to carry out the program.

The most essential component is the staff-training element. If the teachers are not competent in the use of the technology they will not be able to integrate it into the day-to-day activities in the classroom. Knowledge is essential if the teacher is going to be creative in the use of the various devices. In addition to training, the teachers must be motivated and willing to make the change from the typical learning environment. In developing a training plan, the teachers should be assessed so that the training program can be tailored to meet their needs. Last, but not the least important, is the need to support and congratulate the teachers as they develop their skills.

Putting technology into the classrooms requires additional space. Our classrooms were renovated to allow for easy access to the computers and other assistive technology devices. In the high school program each student has an individually configured workstation. A typical room has eight workstations in clusters of four. The design was to get away from rows of computers where students couldn't interact with each other during the day. The computer is a tool for learning and with this in mind we didn't want classrooms to have the look or feel of a computer lab.

In the pre-school classrooms and the rooms for the students with multiple disabilities, the room is set up with multiple computers for student and staff use. The organization of the room always has the students' needs as the focus. In these rooms, the students have individual communication devices and they are also provided with alternative ways of accessing the computer. For example they might use a variety of switches to activate the computer, use Intellikeys as the keyboard, or use an adapted mouse.

In setting up classrooms it is important to remember that the technology is only a tool. The primary focus for the student is always on gaining greater access to the curriculum and participation in the classroom activities.

The following are examples of the assistive technology used with students at Overbrook:

- *Screen reader*
- *Screen magnification*
- *Refreshable Braille Display*
- *Closed Circuit TV*
- *Portable Notetaker*
- *Braille Embosser*
- *Scanners*
- *Adaptive Keyboards*
- *Augmentative Communication Devices*

Using Technology with the Students

A major focus of using the technology at all levels is to increase the students' literacy skills. For students with multiple disabilities, using the Intellikeys alternative keyboard allows the teacher to customize an overlay to meet the students' needs. If the student is not able to use the scanner with the Kurzweil educational software, the Intellikeys keyboard can be set up to help the student read a book independently.

Using technology with students who have a visual impairment seems natural to most people working with the students. However, bringing technology into the lives of students with additional disabilities is sometimes overlooked.

Some Examples

The following student profiles provide examples of creative ways to use technology with students who have additional disabilities. (The profiles are taken from *Technology for All: Assistive Technology in the Classroom*, a book written by OSB educational staff).

Kianna, who is five years old, has low vision and cerebral palsy. She uses a wheelchair with a tray and is able to grasp items with only one hand. For her to use any device, she must first be positioned in her chair so that she is effectively aligned with the device and the device is placed within reach of her arm.

She learned to use two switching devices with tactual cueing. First she learned to use a communication aid that enabled her to request more food at mealtime by pressing the switch. Then she learned to use a more sophisticated aid that enabled her to choose either food or drink.

Once it was established that she was able to make two choices at meals, the choice-making opportunity was used in more situations throughout the day. Kianna is now able to make four choices. This is being carried out with the use of switches with snap caps and pictures. These switches are connected to an auditory output system and contain the following messages: "more," "all done", "stop", and "get up." The switches are mounted in the left side of the tray on a shelf-like ledge, which flips up.

Another student, **CJ** who is a teenager, has low vision and cerebral palsy. She is able to follow simple directions during a daily range of motion exercises and activate switches that are strategically placed on her wheel chair tray. Taking a team approach, CJ's family, teachers and other school staff decided that she should be given the opportunity to use a complex communication device with options that include auditory scanning, switch access, a large vocabulary library, and computer compatibly.

The teacher develops pages with links to incorporate many of CJ's activities and her mother helps determine many of the choices. CJ can press the switch to make a choice but her timing is often off due to the increased tightness and limited range of motion in her arms. She gets very excited when she is successful! This communication aid enables her to participate in numerous activities throughout the day, offering her independence, socialization and increased self-confidence.

In using assistive technology throughout the curriculum, creativity and perseverance are essential. Kiana and CJ are successful because the staff and family worked as a team and looked at creative ways to allow the girls to participate in their educational programs. It is often a challenge to adapt a communication device but the students have the right to use the devices that will assist them with greater independence and learning.

Some General Principles

Technology is changing everyone's life. This should also be true for children that are visually impaired. Technology can bring print, pictures, science experiments, and just about anything to children who are blind or visually impaired. As professionals we need to be open to the possibilities. In looking at ways to improve our approach to using technology, the following general principles offer some guidance in using assistive technology with students:

- *Assistive technology for students with visual impairment is more than an educational tool. It is key to learning and participation in daily activities.*

- *Appropriate technology must be introduced at the appropriate time for the student. Having the newest device isn't the most important thing; having an appropriate device that will allow the student to function well is the essential component.*

- *Remember that every student's assistive technology needs are unique.*

- *Functional use of assistive technology may require a combination of large print, pictures, speech, and braille.*

- *A good assessment of the student's needs and current skills is important.*

- *All students need a personal communication system to communicate independently with others.*

- *Learning to use assistive technology is an ongoing cumulative process, and students need formal training to continue to build their skills.*

- *Technology is important for educational purposes, entertainment and other social activities.*

Technology is a motivator for most students. They are eager to learn and it equalizes the learning environment. Students are able to have materials at the same time as their sighted peers, they can communicate easily with others and for some students the piece of technology is their real voice.

At Overbrook, we have found that the two crucial elements of a successful program are (1) the training and motivation of staff, and (2) the creativity that staff bring to the program. If these components are in place, the students will have the opportunity to use the technology appropriate for their needs.

THE BALL IS IN OUR COURT - the ICT Accessibility Game

Dipendra Manocha

National Association for the Blind — New Delhi State Branch, INDIA

Even in countries with the best of infrastructures, only 3% of printed material is available in accessible formats for people who are print disabled. In developing countries, even basic challenges like the provision of school text books in Braille are yet to be overcome. In India, many agencies including Government and Non-Governmental Organizations are trying to face up to this challenge, but let us first consider the disturbing facts of the current situation.

When any print book is to be converted into Braille, the complete book has to be either retyped or electronically scanned into a word processing package, and then checked for inaccuracies - only then can the hardcopy Braille version be produced through a Braille embosser connected to a computer. In principle however, once an accurate electronic text (e-text) version of the print book has been developed, it can be used to produce any number of hardcopy Braille books, any number of times, in any number of locations. Production of the e-text accounts for almost 95% of work of Braille production, however, the current reality is that often each small organization that produces Braille is preparing its own e-text versions of books from scratch. As a result, we see instances where three organizations in the same city unwittingly produce e-texts of an identical book. On other occasions, even when there is collaboration, an e-text produced at one organization is often stored in a format that can't be accessed at another organization. Similar problems occur with talking books, and the same book is often recorded many times by different organizations.

Now let us look at a possible solution to these problems - the scenario described next is a already a technological reality. A book is scanned or typed and stored in a standard format on a PC. The e-text retains elements of the book's original structural design (such as chapters, sub-headings, page numbers, foot notes, side bars etc). The Braille transcription software can directly convert this e-text into Braille format and a Braille hard copy of the book can be produced to include features like print page numbers with minimal reformatting. Within a few minutes, the same e-text can be converted into a talking book using synthesized speech, and this audio book in digital format can provide users with navigation facilities unheard in traditional talking books. The text (whether in print, braille or talking book format) is recordable onto CDs and can also be easily transferred through the internet. Organizations anywhere in the world can now not only share title catalogues, but can share content directly through the internet. This technology and the standards organization that has grown around it, have cleared all the hurdles

from the path of the creation of a global library system in which content generated in an accessible format in one organisation can become available any where in the world. This standard of accessible information is called DAISY, (Digital Accessible Information System) – for further details visit **www.daisy.org**.

The logical next step is to develop a central repository of e-text source documents stored in standard XML format. Organisations involved in the production of accessible materials for persons with visual impairment could not only download content from this central repository but also contribute to it. This repository could even be accessed directly by those persons with vision impairment who are fortunate enough to be sitting on the right side of the digital divide. It is now essential for developers of access technology to support this standard and work towards making this store of content available to all people with visual impairment everywhere.

It often not so much the shortage of production facilities that leads to the dearth of materials in an accessible format, but it is the inefficient use of these facilities in duplicating content already available in other locations. The beauty of the current technology is that the mainstream publishing industry also uses these digital formats. Mainstream publishers could potentially provide, from source, digital versions of books in a standard DAISY format directly to producers of materials for the visually impaired through a central repository. To make this happen though, it is essential that organizations involved in the production of accessible materials agree to abide by the international standards established to avoid the illegal copying and pirating of copyright materials.

An effort to create just such a repository has been made at the NAB in Delhi through an e-text library project funded by an ICEVI Lee Foundation grant. Within the first year of its implementation the project has been able to provide accessible books to university students who have taken subjects such as Political Science, History, Education and English Literature.

The technology is right there - fully developed and evolved. The ball is now in the court of organisations that produce accessible materials to adopt these technologies and standards and make huge amounts of relevant information available to the print disabled.

Education For All – INGO's joint initiative

Individuals and organizations around the world have reacted positively to the joint educational policy statement of ICEVI and the World Blind Union which was released at the Africa Forum in May 2004. Christoffel Blindenmission, who have developed a joint policy on education with Sight Savers International, are proposing that the International Non-Governmental Agencies (INGOs) concerned with education and visual impairment should work towards the formulation of a common policy relating to education for all children with visual impairment. A joint committee comprising representatives from ICEVI, the World Blind Union, CBM, and SSI has been established to develop a policy which can be the basis of guidelines to the international community. The policy will be finalized during the early 2005 and The Educator will provide more information on this development in future issues.

ICEVI

ON-NET/ICEVI Mathematics Project: Progressing Steadily

The previous issues of The Educator carried news about the ON-NET/ICEVI mathematical package being developed for teachers involved in teaching mathematics to children with visual impairment. The project is progressing according to schedule and a draft package covering more than 500 mathematical concepts at the secondary level has been developed. The package includes detailed advice on methods of teaching, the development of teaching and learning materials, re-creative mathematics, the abacus and the use of Nemeth Braille codes. The master trainers who attended the first workshop in Bangkok during April/May 2004 will be brought back to Bangkok again during February 2005 for a follow-up workshop to learn additional techniques and to provide feed-back on the package. The Africa region has already requested a master level training programme on this subject during 2005. The materials will be presented at the executive committee meeting of ICEVI in Madrid and will be published by the Overbrook-Nippon Network on Educational Technology later in 2005. The project is likely to gain increasing importance with the growth of inclusive education programmes. If you want to know more about this package and also about the forthcoming workshops, please contact the ON-NET or ICEVI Secretariats.

UN STANDARD RULE ON ACCESSIBILITY

The United Nations' Standard Rules on the Equalization of Opportunities for Persons with Disabilities lists accessibility as one of the target areas for equal participation of persons with disabilities in the mainstream. Rule 5, which talks about accessibility is as follows:

Rule 5. Accessibility

States should recognize the overall importance of accessibility in the process of the equalization of opportunities in all spheres of society. For persons with disabilities of any kind, States should (a) introduce programmes of action to make the physical environment accessible; and (b) undertake measures to provide access to information and communication.

● Access to the physical environment

- *States should initiate measures to remove the obstacles to participation in the physical environment. Such measures should be to develop standards and guidelines and to consider enacting legislation to ensure accessibility to various areas in society, such as housing, buildings, public transport services and other means of transportation, streets and other outdoor environments.*

- *States should ensure that architects, construction engineers and others who are professionally involved in the design and construction of the physical environment have access to adequate information on disability policy and measures to achieve accessibility.*

- *Accessibility requirements should be included in the design and construction of the physical environment from the beginning of the designing process.*

- *Organizations of persons with disabilities should be consulted when standards and norms for accessibility are being developed. They should also be involved locally from the initial planning stage when public construction projects are being designed, thus ensuring maximum accessibility.*

● Access to information and communication

- *Persons with disabilities and, where appropriate, their families and advocates should have access to full information on diagnosis, rights and available services and programmes, at all stages. Such information should be presented in forms accessible to persons with disabilities.*

- *States should develop strategies to make information services and documentation accessible for different groups of persons with disabilities. Braille, tape services, large print and other appropriate technologies should be used to provide access to written information and documentation for persons with visual impairments. Similarly, appropriate technologies should be used to provide access to spoken information for persons with auditory impairments or comprehension difficulties.*

- *Consideration should be given to the use of sign language in the education of deaf*

children, in their families and communities. Sign language interpretation services should also be provided to facilitate the communication between deaf persons and others.

- *Consideration should also be given to the needs of people with other communication disabilities.*

- *States should encourage the media, especially television, radio and newspapers, to make their services accessible.*

- *States should ensure that new computerized information and service systems offered to the general public are either made initially accessible or are*

adapted to be made accessible to persons with disabilities.

- *Organizations of persons with disabilities should be consulted when measures to make information services accessible are being developed.*

The section on Access to Information and Communication is so vital for persons with visual impairment. ICEVI in its campaign for education for all emphasises the need for provision of braille materials and other assistive devices for the effective education of children with visual impairment. The ICEVI-WBU joint policy statement too lays emphasis on the need for such assistive devices and teaching-learning materials for children with visual impairment.

ICEVI Research into Education of Visually Impaired Children in Uganda

The ICEVI research in Uganda has produced some interesting interim results which are being shared with policy makers. CBM and Sight Savers have already expressed interest in replicating this study in other countries in the Africa region with a view to producing hard evidence to policy makers about the parameters for successful inclusion of children with visual impairment in local primary schools. Organisations in China too have enquired about replicating the study in China. Though a blueprint for inclusion cannot be drawn up for the entire world, replication studies can help identify both the general and the context-specific factors pertaining to the successful implementation of inclusive education for children with a visual impairment. The draft report of the Uganda Research will be tabled at the meeting of the Executive Committee of ICEVI and then posted on the website of ICEVI.

Opening the Library Door through Digital Technology - the Hong Kong Society for the Blind

Fred Leung
The Hong Kong Society for the Blind

The Digital Voice Library

With a grant from the Social Welfare Department of the Government, the Hong Kong Society for the Blind has set up a Digital Voice Library for people with a visual impairment in Hong Kong - the first of its kind in the world. The objective of the project was to develop a highly automated digital library capable of delivering reading material in audio format via the public telephone network or the Internet to better address the reading needs of the visually impaired. The 15 month project was successfully completed in March 2004.

The Digital Voice Library (DVL) enables registered members to access a range of resources including text on the Internet and talking books and braille books from the Society's Library, using either a conventional telephone or a Personal Conputer. When using the telephone to listen to material, not only can members adjust the volume and reading speed but they can also skip forward and backward through the text, inserting bookmarks in key passages via the telephone keypad. Even members who do not know braille can access the Library's braille books thanks to the text-to-speech engine of the DVL which can convert the braille code into speech. By the end of November 2004, over 1,200 titles were available through the DVL. Listeners can also access online information from the Internet in real-time through the same technology.

The system currently supports Cantonese, Putonghua and English. In addition to listening to texts by phone, it is also possible for members to search library records and book catalogues through the web-based library system. The system has also enhanced the productivity of our staff who can now edit database records and print off various reports much more efficiently than before.

DAISY Players

The Hong Kong Bank Foundation sponsored the purchase of 400 DAISY players for the Hong Kong Society for the Blind to lend to members of its Library free of charge. DAISY (Digital Accessible Information System) is a new advanced talking book technology which makes books in this format easy to read, carry and store. Up to 20 hours of voice data can be stored on a single Compact Disk. Readers can access freely, accurately and speedily any page or section of a DAISY book through either a personal computer with compatible playback software, or a special DAISY player. The Society has been producing DAISY books since 1998 and by the end of November 2004 over 1,200 titles in Cantonese were in stock. If you would like further information about either of these initiatives, please contact the supervisor of the Communication Department scd@hksb.org.hk.

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In Papua New Guinea: High tech training for the Highlands

Frances Gentle

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Introduction

Papua New Guinea (PNG) is a South Pacific island nation of approximately 5.2 million people, representing over 700 indigenous tribes or clans, each with its own distinct culture, language and customs. PNG forms the eastern part of the island of New Guinea, the second largest island in the world and shares a land border with the Indonesian province of Irian Jaya. It is situated along the Pacific "Ring of Fire" and volcanism and earthquakes have produced its massive interior mountain chain. PNG is divided into 20 provinces, with the capital at Port Moresby. It has a parliamentary democracy, with the British sovereign as Head of State (Central Intelligence Agency, 2004).

Like many 'developing' nations, the PNG government faces the challenges of addressing low school attendance rates associated with cultural traditions and poverty (Kulwaum, 2004). Its 2002 National Census indicated that over two million people living in rural areas and over

120 000 people living in urban areas have never attended school. In addition, there is massive attrition in school attendance between first and final years of schooling. The literacy rate of adults over the age of 15 is 56% of total population (National Statistical Office PNG, 2004; Tesni, 1999). Over the past decade, the PNG government has attempted to address these low school retention rates and low literacy levels through a number of 'formal' and 'informal' educational initiatives and reforms, including the National Literacy Policy (2003) and the National Curriculum Statement (2002) (Department of Education 2002; National Literacy and Awareness Secretariat, 2004).

This article describes the introduction of computer technology to high school students who are blind in Goroka, Eastern Highlands Province of Papua New Guinea. The structure of the program and issues of delivery are addressed, together with recommendations for future training.

Some background

During July 2004, a small group of Sydney-based special educators journeyed to Mount Sion Centre for the Education and Training of Disabled Persons, at Goroka, in the PNG Eastern Highlands. The purpose of the expedition was to provide training in inclusive classroom practice and braille literacy to 30 educators

from elementary, primary and secondary schools in the Goroka region.

Mt. Sion Centre provides a range of school and community based services for children with disabilities and their families in the greater Goroka region (Dirs, 2003). The Centre provides boarding accommodation for approximately 30 students with vision and hearing impairment who are enrolled in local schools.

The teacher training program was based upon areas of need identified in July 2003 by staff at both Mount Sion Centre and the local Catholic primary school, Sacred Heart Faniufa (Bosco & Gentle, 2003). One focal area was the need to provide computer training for the senior Mt. Sion boarders who are blind. Centre staff emphasised that the students' future access and success in tertiary and vocational training programs would be greatly enhanced by knowledge and skills in information and communication technologies (ICT). Benefits for both the participating students and Centre staff would include access to physical and electronic 'libraries' for the purposes of research, preparation of documents, electronic presentations and databases, and access to course outlines and prescribed texts. In turn, the potential for paid employment would be greatly improved.

Program delivery

The training team consisted of three special educators and one technology trainer. The latter, Mr Ben Clare, has severe vision impairment, and has worked for several years in the area of computer training of students with vision impairment in the New South Wales Tertiary and Further Education (TAFE) system. The training program targets were as follows:

1. Powering the computer up and down

2. Familiarisation with the desktop environment, including the standard "qwerty" keyboard, file and folder creation and access, and understanding and use of the 'Windows' environment

3. Basic software operations, in particular opening and closing various applications, menus and menu commands, and modification of documents

4. Common core tasks such as spelling and grammar checks

5. Word processing skills

6. Introduction to Internet and E-mail

Equipment used in the program consisted of a lap-top computer with voice output software, printer and several external keyboards (for each student to memorise the position of keys). The lap-top option was chosen for its portability between Australia and PNG, and also for its portability for the students between Mt. Sion Centre and school.

The training program was delivered in the English language, since all trainers were Australian. English is one of the three national languages of New Guinea. The Mount Sion Centre staff and students spoke the national languages of English, Motu, and Pidgin English, which is a derivation of English and local tribal dialects, together with the language/s of their tribe or region. The complexities of "computer jargon" was an added overlay that required attention.

Five braille-literate boarding students aged between 14 and 24 years took part in the computer training program, together with five members of the Mt. Sion special education

team. At commencement of the training, the students expressed their excitement about their first experience in computing. By the end of the first day, the students had memorised the keyboard and could type the alphabet with little prompting. Over the course of the ten-day training period, they achieved introductory knowledge and skills in the focal areas 1-5 listed above, and this culminated on the last day of training in the typing of their first print letters.

Program evaluation

Both students and Mt. Sion special education teachers were fully aware of the significance and potential of the computer training for current and future educational and work prospects. Given the intensive, short-term nature of the computer training program, their achievements were remarkable, and were in large part due to the expertise of Ben Clare, the program trainer. His perspective as a computer-literate blind adult in the workforce, together with his knowledge and experience with voice output software, enabled him to anticipate many of the areas of difficulty and present the concepts in ways that had meaning to people whose primary reading and writing medium was braille.

The training program was not without problems and challenges. Major problems were associated with the failure or incompatibility of computers and software programs, for example, one of the two lap-tops purchased for training did not function with the voice output software. Repairs were thwarted by the absence of technicians or technology consultants. Incompatibilities existed between the brand of voice output software and the Office computer, which was the only access point for Internet and Email. As a result, the students were unable to independently use Internet and Email. This was a great disappointment to them.

Inclusion of the Mt. Sion special education teachers in the training program enabled in-situ training of the students to continue after the Australian trainers had departed. The special education teachers themselves had minimal access to computer technology, and acquired useful knowledge and skills during the training period. They were enthusiastic about the nature of the training program, and saw first-hand the capabilities of students who are blind to acquire computer literacy knowledge and skills. They participated in discussion on the potential scope of such knowledge, and should prove knowledgeable advocates for technology for people who are blind in PNG.

Future recommendations

Prior to the computer training program, many uncertainties existed about the wisdom of providing computer training to the PNG students. There were concerns about the possibility of establishing unreasonable expectations of the potential of computer knowledge in a country where the majority of employment options were associated with subsistence living. Issues of access to computer technicians was also an area

of concern, since there is only one source of commercial computer repair in the Eastern Highlands. It is common practice to seek replacements of faulty technology rather than pay the high price of repairs. Because of the costs of voice output software, PCs and lap-tops, there is concern that student access to computers will cease if and when the hardware or software fails to function.

An outcome of the project is a recommendation that future training programs include training in the maintenance of computers and associated equipment, such as printers and scanners. Training, it was realised, should be expanded to include both screen enlargement and voice output software, to include students with low vision. Future activities should emphasise academic and vocational applications, including knowledge and skills in multimedia, databases, spreadsheets, graphics, and Internet skills.

Teachers and educators should be encouraged to participate in training sessions. The adults learn valuable work and study-related skills, and provide 1:1 support to the students during the training period. With their newfound knowledge and skills, the adults should be able to continue to provide learning opportunities following future training periods.

Summary
Mount Sion Centre staff and student feedback on the July 2004 training program was all positive. The trainers were challenged to reshape their Australian-based perspectives as well as the learning strategies, in order to meet unique PNG needs. This reshaping was achieved in part through establishing a collaborative, respectful approach to information delivery. The computer training program had the added challenge of presenting entirely new concepts, skills and language associated with information and communication technology (ICT) to a group of students who had no experience in this area. The training program was highly successful, and at the time of writing, a follow-up computer training program is in-train for December 2004.

It became evident to those on the team that educators in PNG are concerned about their ability to provide positive educational outcomes for students with disabilities. Government policy mandating inclusive education and current educational reforms must continue to be supported by the provision of coordinated national professional development opportunities. Knowledge and skills in inclusive classroom practice as well as in information and communication technologies (ICT) will enhance the efficacy of teachers and students alike. The project was aimed at supporting the PNG government in its task of enhancing the educational outcomes of all students and empowering them to contribute to their families, communities and the nation.

References
1. *Bosco, C. & Gentle, F. (2003). Mount Sion Centre for the Education and Training of Disabled Persons, Goroka P.N.G Unpublished report written for the Christian Brothers Leadership Team ACT/NSW, Australia.*

2. *Central Intelligence Agency (2004). CIA Fact Book: Papua New Guinea.*
   Retrieved from the Internet, 4th August 2004:
   www.cia.gov/cia/publications/factbook/geos/pp.html

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3. Department of Education PNG (2002). National Curriculum Statement for Papua New Guinea. Department of Education, PNG.

4. Dirs, S. (2003). Callan Services Papua New Guinea. Edmund Rice Foundation News, 5, 5-8.

5. Kulwaum, G. (2004). PNG BUAI: Problems of devolution of PNG education. Retrieved from the Internet, 23rd July 2004: http://www.pngbuai.com/300socialsciences/education/policy/

6. National Literacy and Awareness Secretariat (NLAS) (2003). National literacy policies Papua New Guinea. Retrieved from the Internet 23rd July 2004: http://www.accu.or.jp/litdbase/policy/png/

7. National Statistical Office of Papua New Guinea (2004). 2000 Population Census of PNG. Retrieved from the Internet 3rd August 2004: http://www.spc.int/prism/Country/PG/Stats.htm

8. Tesni, S. (1999). Case study: Papua New Guinea The provision for children with hearing impairment and deafness in an 'inclusive' system. Retrieved 28th May from http://www.eeenet.org.uk/deaf/incdeafrep/pngsian.shtml

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Growth and Learning Opportunities in Blindness Education For All: Free Distance Education Courses

The GLOBE All distance education program initiated by ICEVI in collaboration with the Hadley School continues to gain momentum. The program is being promoted across the ICEVI regions and country level plans are in place to offer free support to teacher educators. A committee constituted by the Rehabilitation Council of India has suggested that the Hadley course be recognised as meeting the mandatory requirement for renewing the registration of professionals involved in education and rehabilitation of the visually impaired. Similar initiatives at the local level are likely to increase the enrolment in the GLOBE All programme in the years to come. For more details of the latest developments relating to this programme, contact Nandini Rawal, Secretary, ICEVI at bpaiceviad1@sancharnet.in or the Hadley School for the Blind at info@hadley-school.org.

Assistive Technology

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Screen Readers

Screen readers are programs primarily designed for blind people. Their function, therefore, is to access and read information from the screen. They not only read information written in a document that contains simple text, but also read tables, spreadsheets, and emails. Screen readers come with a variety of voices from which to choose. They can be adjusted to read at a particular speed or to read with a certain pitch or inflection. At one time they read through an external speech synthesizer, now largely replaced and updated by software speech synthesizers which work with a soundcard and a pair of headphones or speakers. Currently, the most popular screen readers are JAWS for Windows by Freedom Scientific, WindowEyes by GW Micro, and Hal by Dolphin Systems.

Enlargement Programs – Magnify what otherwise cannot be seen

Screen enlargement programs, also called magnification software programs, are designed for computer users who are low vision. Their function is mainly to magnify the screen, because the assumption is that the intended users have enough vision to read information from the screen.

Magnification Software Programs

They can be installed on any computer, with any fonts, including Chinese characters, Cyrillic, Greek or Arabic characters and, even though they may fail to read them, they will still enlarge them. The most commonly used magnification software programs are ZoomText by AiSquared, Lunar/Lunar Plus and SuperNova by Dolphin Systems, and Magic by Freedom Scientific.

Optical Character Recognition (OCR) Software and Scanners

Optical Character Recognition software, commonly called OCR software, is designed for people who are blind or who have low vision. The software works with a scanner that recognizes a text and displays it on a screen. In addition to interfacing with the scanner, the software allows the user to read the scanned material. It comes with built-in features of a screen reader and magnification software, so it can function even if no additional software (either a screen reader or an enlargement software) is installed.

Video Magnifiers (CCTVs) enlarge everything that is "in their way"

Video Magnifiers, also called CCTVs, are devices designed for people who are low vision. Their main function is to magnify any text or image, literally anything that is put under their lens, to such a level of magnification that it is comfortable to see or read. CCTVs, in addition to magnifying the image, have other options that help people read the magnified text.

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Electronic Notetakers that write information without using paper

The purpose of electronic notetakers has gone greatly beyond simple note taking, maintaining the address book and using the calculator, the alarm and the timer. Similar to personal digital assistants (PDA's), they are now specially designed for people who are blind or low vision. Like PDAs, notetakers allow users to type their documents and then transfer them to the computer or to another user of a similar notetaker or of a PDA via the infrared port. Users can also browse the internet, check email, and use the GPS (General Positioning System) which gives them directions to a given place.
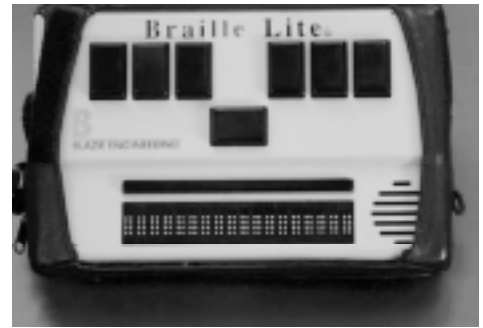
They can also play music or read any text recorded in the MP3 format. Some notetakers even have a cell phone capability, such that users are able to both write and receive text messages, just like sighted cell phone users. Notetakers are divided into two categories: with Braille keyboard and the qwerty keyboard. The Braille keyboard tends to be smaller, since it only contains seven main keys (six Braille dots and a space bar) plus some additional function keys, while the qwerty keyboard is a "regular" keyboard that consists of 26 letters, plus additional characters, digits and function keys. The Braille keyboard is designed for users who are proficient in Braille; the qwerty keyboard is designed for those users (blind or low vision) who prefer to type on a keyboard that is similar to a computer keyboard.

Braille Displays – reveal any information from the screen onto the Braille display
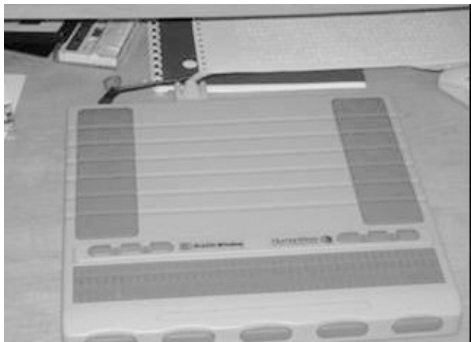
Braille displays are designed for people who are proficient in Braille. They take information from the screen and translate it into Braille. A Braille display user gets access not only to text (in regular text documents, in tables, in spreadsheets), but also to font attributes, such as font style, font size, font color, etc. Users can literally feel the formatting changes in the document under their fingers. Braille displays must be used in conjunction with a screen reader. They come with various navigation keys, i.e. an option to scroll through the screen - something similar to whiz wheels of a mouse. This enables faster navigation on the entire screen. The availability of portable Braille displays is on the increase. There are already available portable units that come in a small suitcase and can be taken to school or on a business trip and connected to any desktop or laptop computer. They have also been an integrated part of many notetakers. The user can then either use speech or the Braille display, or both.

Eye diseases, main characteristics, and the effect on using the computer

Here you will find a list of common eye conditions and the technology that can help reduce their effects. Of course this list cannot be used as a recipe, please consider it just a guideline.

Every person has their own personal needs and every person, even those with the same eye condition, needs an individual assessment!

Ablatio retinae

What is it?	the retina tears loose
Symptom	loss of visual fields, loss of visual acuity, metamorphoses
Practical consequences:	
Enlargement	+
Contrast	++
Illumination	moderate

Achromatopsia

What is it?	Congenital colour-blindness
Symptoms	impairment of colour discrimination, loss of visual acuity, nystagmus, photophobia
Practical consequences:	
Enlargement	+
Contrast	++
Illumination	–

Albinism

What is it?	absence of pigment
Symptoms	loss of visual acuity, nystagmus, photophobia
Practical consequences:	
Enlargement	+/–
Contrast	+
Illumination	–

Aniridia

What is it?	whole or partly absence of the iris
Symptom	loss of visual acuity, nystagmus, photophobia, visual fields can be affected, myopia
Practical consequences:	
Enlargement	+
Contrast	+
Illumination	–

Cataract

What is it?	turbidity of the lens
Symptoms	blurred image, light scatter
Practical consequences:	
Enlargement	+
Contrast	++
Illumination	no direct light

Diabetic retinopathia

What is it?	local widening or bleeding of capillaries in the retina
Symptoms	restriction of visual acuity and visual field (scotoma), metamorphoses, possible frequent changes
Practical consequences:	
Enlargement	+
Contrast	+
Illumination	evenly spread

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Glaucoma
What is it?	raised intra-ocular pressure
Symptoms	restriction of visual field and visual acuity, sensitive to light
Practical consequences:	
Enlargement	+
Contrast	+
Illumination	–

Macular degeneration
What is it?	affection of the macula lutea
Symptoms	restriction of visual acuity and central visual field, impairment of colour discrimination
Practical consequences:	
Enlargement	+
Contrast	+
Illumination	evenly spread

Nerves Opticus atrophia
What is it?	degeneration of the optical nerve
Symptoms	see macular degeneration
Practical consequences:	
Enlargement	+
Contrast	+
Illumination	evenly spread

Nystagmus
What is it?	constant involuntarily movement of the eye
Symptoms	movements of the eyes, therefore difficulties focussing
Practical consequences:	
Enlargement	+/–
Contrast	+/–
Illumination	no direct light

Myopia gravior
What is it?	high short-sightedness with retina complications
Symptoms	loss of visual acuity, short looking distance
Practical consequences	
Enlargement	+
Contrast	+
Illumination	+

Retinitis pigmentosa
What is it?	degeneration of several layers of the retina, usually starting at the outside of the retina
Symptoms	progressive loss of visual field, night-blindness, photophobia
Practical consequences	
Enlargement	+/–
Contrast	+
Illumination	evenly spread, soft

Of course it's possible! Introducing ICT in Honduras

Enrique L. Vásquez – ICT Coordinator INFRACNOVI

My article is based on a presentation I made during the ICEVI Central American Regional Conference in Costa Rica in the last week of October 2004. I will begin by telling you a little about how the programme began. In the year 2000, **INFRACNOVI** (The Franciscan Institute for the Rehabilitation of the Blind) took its first steps in the use of ICT for blind people in Honduras. In 2003, I was fortunate enough to be offered a post at the Institute, which I accepted with great expectations but also great nervousness, as I had never worked with blind people before.

I started to familiarise myself with the books on the education of children with visual impairment which were available in the institution, but although they were very thorough, they offered no advice about teaching children with a visual impairment to use Information and Communication Technology (ICT). Santitos, one of my pupils came to me and said: "Teacher, when do we start lessons? I want to learn ICT so that I can get a job!". I will never forget the expression on his face, his smile was so sincere and spontaneous, but it also revealed a determination which only a people with a great desire to improve themselves can display. I asked myself: "What do I do now?" We started to chat about his hobbies, his hopes, his fears and his challenges in life. When more pupils started to arrive, all of them with different expectations and

aims, I realised that first need was to draw up individualized plans of work.

I know some of you will be saying to yourselves " this man must have all the time in the world to draw up individual schemes of work" but in the Institute we work on a ratio of 12 pupils per class and we teach 4 different groups per day. Of course at first things were complicated because of the time factor and the individualised methodology which we had chosen to follow, but I was lucky to have the support of three teachers who work in the Institute: Fátima Altamirano from the Professional Inclusion Programme, Yuni Burgos and Felipe Cruz, both from the Inclusion in Education Programme. My colleagues helped me out, advising me about the educational resources which I could adapt for ICT classes, and the materials which specialist teachers would need to work with pupils outside the centre.

In Honduras we began our ICT work with young people between 13 and 17 years of age and then we extended our work to young adults and then mature adults, trying at the same time to devise an appropriate methodology and to separate out the work into appropriate ICT modules. It is not easy to define the precise content of the technical training required in ICT, but we have tried to design a programme to cover the essential principles and basic components of the new technologies.

At the end of the year we plan to integrate into our ICT classes young pupils from the Centre's Early Stimulation Programme. Our goal is to complement the stimulation work already completed with education software designed to enhance listening and visual skills through activities based around the sounds of daily life, music, animal sounds etc. We have now had experience in working with children with a wide range of visual impairments and we have been pleased the results of the education software we have used. However we have found it essential for children to have additional help from parents or volunteers in classes, particularly with software that requires access to the keyboard or the mouse because, in most cases, our pupils cannot use them independently. We have found that sessions on the computer with young children should not exceed 30 minutes because they lose their concentration and their motivation, and may become tired and a little irritable.

We also have been active in supporting pupils with a visual impairment who attend local schools as part of our inclusion programme. My colleagues have faced a titanic task in persuading education centres to include our children. It has been necessary to train the teachers as much as the pupils, and to individually supervise each integrated child. We have, however, been able to use educational software to supplement the normal schemes of work in the primary school curriculum and the results have been very encouraging. Through the use of computers, we are able to reinforce the knowledge that children in early primary education have recently acquired in areas such as numeracy and literacy.

The work we do at INFRACNOVI is part of a project called "Inclusive Professional Training for Young People with Disabilities", which introduces young blind people to Microsoft Word, Excel, Power Point, the Internet and a range of adapted technologies and preparation for the world of work. We have received generous support from the Organisation of American States (OEA), and FEMCIDI from El Salvador, and I take this opportunity to express our gratitude for their faith in blind people from Honduras! Particular thanks go to Dr Guillermo Molina and José Felix Palma, ex-director and Director, respectively, of the General Secretary Office of the OEA. Thanks also to the volunteers Alejandro López (from El Salvador), Santiago Cubillos (Colombia) and Zenón Medina (Peru).

However every story has a downside. In our case, although we have an ICT team, resources, and software and hardware, we can't afford proper salaries for the technical team and the Junta Directiva (the Management) constantly have to juggle finances in order to pay us. In the majority of cases our pupils can, after intensive work, gain access to work and we can't deny them this opportunity by charging them for the service. This is our main difficulty, however the work provides many opportunities to give of one's best and this is a source of great satisfaction. The challenge that we face enables one to grow as a professional, an educator but above all as a human being.

"Blindness does not set any limits but your indifference does." This is our motto and I hope with all my heart that after reading this short article you will support our work.

For further details contact: infracnovi@sigmanet.hn

Living the technology dream – children in Hyderabad

B. Sudha Dinakar

Devnar School for the Blind, Hyderabad – 16, A.P. INDIA

The Devnar Foundation for the Blind, Hyderabad, is a place where dreams have come true for children with a visual impairment. With its agenda of providing the best and latest facilities for children with a visual impairment from all backgrounds, the Devnar Foundation has been enabling children to reach beyond the horizons they had once set for themselves.

Computers have changed the world at the work place and at school. At the Devnar Foundation children are given access to computer systems with a range of adaptive software including

- "Jaws", (screen reading software), Kurzweil Optical Character Recognition Scanners (for enabling students to read any printed matter)
- Magic (screen magnifying software)
- Mountbatten Electronic Braillers
- Braille Printers

This has helped create an environment to enable children to excel. Here are some example of our achievers:

Nagababu, who came from a rural and economically weak background, was academically brilliant. However, because of his visual impairment his future was very bleak, until he was introduced to computers at Devnar. He found he was a natural programmer and he realised he could make his dream of becoming an engineer come true. Today he is studying at the Polytechnic College at Gudlaveluru where he is taking a Diploma in Computer Engineering. *Nagababu has paved the way for others.*

Pavan, another outstanding Devnar student, did not want to pursue the Arts courses like his peers. He had seen his cousins and friends working on computers in his home-town but though he was fascinated by computers, he felt in his heart of hearts that it was impossible for him to follow this career path. His ideas changed once he was exposed to computers at Devnar and he realised that he would not have to unwillingly follow a traditional career. Pavan is now training to be a computer engineer.

Another child, **Gangadhar**, comes from a farming family. When he told his father he was going to be a Computer Engineer, his father was very upset because he knew that his son's visual impairment would always stand in his way. But he humored his son, as he did not want to spoil the child's dream. On one of his visits to our school, the father observed his son working on the computer systems. He was overwhelmed and he rushed to his wife to proudly announce "Our son is going to be the first engineer in our family".

These children have a right to be called achievers as they have overcome more hurdles than most of us to pursue their dreams. These are but a few examples of how information technology has widened the horizons for the visually challenged like never before.

With the right facilities, the right care and with dedicated teachers, students like these can achieve success. But many more institutions are needed to provide opportunities in information technology for the visually impaired.

ICEVI

Forthcoming Events

East Asia Regional Conference, February 20-23, 2005

Arrangements are in hand for The East Asia regional conference in Jomtien, Thailand from 20 to 23 February 2005. Like the West Asia regional conference, "Inclusion" is the theme chosen by East Asia. ICEVI is determined to play a vital role in achieving education for all children with visual impairment before 2015, and these initiatives at regional levels, particularly in Asia, are likely to yield results in increasing educational opportunities for children with a visual impairment over the next decade. This regional conference is likely to attract more than 150 participants from across the region.

Executive Committee Meeting of ICEVI

The third meeting of the Executive Committee of ICEVI for the present quadrennium will be hosted by ONCE in Madrid, Spain from 4 to 5 March 2005.

Vietnam Meeting, March 20-22, 2005

ICEVI is working closely with the Vietnam National Institute for Educational Strategy and Curriculum (NIES) that is organizing a high level planning meeting on March 20-22, 2005. This meeting hopes to formulate strategies leading to improved human resource development and expansion of educational services for children with visual impairment in Vietnam. This high level meeting will be attended by policy makers from Vietnam, direct service providers representatives from teacher preparation institutions and universities. Representatives of international organizations currently working in Vietnam in the fields of special education and rehabilitation are being invited to join the dialog, as well. ICEVI is grateful to CBM for their support of this initiative.

ICEVI's participation in Vision 2005

ICEVI will conduct a symposium on education of children with visual impairment at the Vision 2005, an international conference organized by the Royal National Institute for the Blind in London from 4 to 8 April 2005.

Here and There

Deputy Coordinator and Chief of UN-NGLS:

Ms. Zehra Aydin has joined UN Non Governmental Liaison Service (UN-NGLS) as Deputy Coordinator and Chief of NGLS's New York office Her contact details are: Ms. Zehra Aydin, UN Non-Governmental Liaison Service (UN-NGLS), 1 UN Plaza, DC1-1106, New York, NY 10017. Telephone +1-212/963 3125, Fax +1-212/963 8712. General e-mail: **ngls@un.org**

Perkins Panda Early Literacy Program

The launch has recently been announced of the Perkins Panda Early Literacy Program, a compilation of materials and resources developed by the Perkins School staff. For a full description of the program visit the Perkins website **http://www.perkins.org/area.php?id=25**. In brief, the Program is a collection of storybooks (all with color illustration, large print & un-contracted Braille), activity guides, audio cassettes, a toy panda (the main character), a resource guide and a story box. You can purchase the complete kit or order individual components separately. The target ages are 0-8, although the resources could also be helpful for older children with multiple disabilities. Early topics covered include the role of the parent, multisensory approaches, language development & encouraging independence. Later sections cover exploring the outside world and peer interaction, and address the introduction of concepts such as sequencing, matching and discrimination skills,

etc For further details about the program, contact Bruce Curtis, Coordinator, Perkins Panda Early Literacy Program, Perkins School for the Blind, 175 North Beacon St, Watertown, MA 02472, USA.

Dick Porter joining IAPB

Mr. Richard Porter, the Executive Director of the Sight Savers International, has accepted a post in the International Agency for the Prevention of Blindness. Dick has been a great advocate of ICEVI's global Education for All campaign and an active and supportive member of the ICEVI executive committee. As you will have read earlier, IAPB and ICEVI are working closely together and ICEVI hopes to receive Dick's continued advice on ICEVI activities. Congratulations Dick on your new assignment and ICEVI is looking forward to continuing our close relationship.

Congratulations Chris Friend

Chris Friend, who works for Sight Savers International, was named as the Traveller of the Year for the year 2003. Chris's visual impairment has not proved a barrier to the global travel his post requires, and his example will surely help ease the way for other persons with visual impairment in international travel. Well done Chris - happy landings!

New Publication from Overbrook Available:

The Overbrook-Nippon Network on Educational Technology is making its newest publication

Getting Started: Helping Parents and Teachers Understand the Basics of Assistive Technology for Persons with Visual Impairment available.

As assistive technology for blind and low vision persons becomes more widely available we felt there was need for a simply written publication to help parents and teachers understand basic concepts related to assistive technology. This publication, authored by Karolina Caran a visually impaired ON-NET trainer and doctoral student at George Mason University grew out of her own experience working with teachers in ON-NET programs in Southeast Asia. The book, available on CD, is accompanied by a 15 minute public education video produced at another Overbrook international project. The video entitled **"Yes, I Can!"** follows three individuals; a primary school student with low vision, a totally blind university student and a totally blind business man through a typical day showing how assistive technology helps them in their daily lives. The book may be downloaded at no cost from **www.obs.org** then scroll to International Outreach Program or from **www.on-net.org**.

Those wishing both the book and video should contact:

Overbrook School for the Blind
International Program
6333 Malvern Avenue, Philadelphia,
PA 19151-2597 USA
wenru@obs.org

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