

The Educator



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DAISY

Digital Accessible Information SYstem



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People with Visual Impairment

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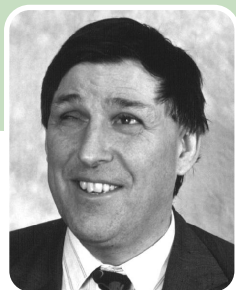
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Our International Partners





Message from **The President**

When I wrote my latest message for the ICEVI E-News in April, I had just come out of hospital after surgery to remove a tumour from my right kidney. I'm pleased to say the operation was a complete success and I was back on my feet in a much shorter time than the doctors had led me to expect. It has been a busy summer in the House of Lords, where I have been actively concerned with some major pieces of legislation, one involving a complete re-write of our system of special education. This will continue through the autumn. At the same time I have been chairing a commission which is developing a strategy for the provision of advice and legal support on social welfare law following significant cuts in the budget for legal aid.

On the ICEVI front, we held a successful meeting of the reconstituted Global Task Force in Madrid, Spain on 31 May and 1 June. This coincided with the 75th birthday celebrations of ONCE, the Spanish National Organisation of the Blind, and we were honoured to be invited to join some 100,000 blind Spaniards in the centre of Madrid on the day following our meeting.

At the meeting itself, strategies were identified for promoting greater collaboration, especially with the World Blind Union (WBU) and the International Agency for the Prevention of Blindness (IAPB), our partners in the Vision Alliance, at regional and national level. There is to be a session with Regional Chairpersons ahead of the next ExCo meeting in Vienna in November, and we will devote some time then to discussing the steps which are needed to put these into practice.

We had a detailed discussion of marketing strategies for the EFA-VI campaign. This included a discussion of whether we had the right title for the campaign. After exhaustive discussion, it was agreed to recommend to the ExCo that the campaign be re-titled "Education4All" with the strapline "Access to Learning for Blind and Low Vision Children". We'll see what the Executive makes of that. At the same time, it may wish to discuss the name of the organisation as a whole. I'm sure we should stick with ICEVI, but wonder if there isn't some way to shorten what

it stands for. "International Council for Education of People with Visual Impairment" is a terrible mouthful and you've usually lost your audience before you've got halfway through it. It would be good to hear readers' views about this.

Much of the meeting was devoted to developing an implementation plan for the EFA-VI Strategy adopted at the joint assembly in Bangkok last November. With a dozen people in the room draft plans only grow longer and the range of tasks to be accomplished is daunting, but the Principal Officers will assign roles to achieve maximum impact.

We are entering into a strategic partnership with the DAISY Consortium to develop a strategy for harnessing technology to enable blind and partially sighted children to be included in mainstream schools alongside their sighted peers. Gordon Brown, the former UK Prime Minister and now the UN Secretary-General's education envoy has offered to promote this with major players in the technology field such as Apple, Google, Microsoft and Amazon, as well as the World Bank, the Global Partnership for Education, etc.

There is a strong consensus that the joint Assembly with WBU in Bangkok last November was a success, so it has been agreed to hold the next Assembly jointly in 2016. A document has gone out to members inviting bids to host the event. It is a formidable undertaking to host an event as successful as the last one. Many bases have to be covered and many details put in place, but if any of our members have the resources and the enthusiasm, I would encourage you to put in a bid - staging an event of this kind can be a real opportunity for learning and organisational development. We have already decided to make one or two changes. There was general agreement that last time's event went on too long, so it has been decided to fit everything confined to not more than one week. We will also have a more traditional conference day devoted to the presentation of papers which have been carefully selected on the basis of abstracts submitted, so I hope in that way we will get the best of both worlds - traditional conference and new-style joint assembly.

In recent issues I have spoken of efforts to secure a higher profile for disability in the development framework which follows the Millennium Development Goals when they run out in 2015. There is an article about this elsewhere in this issue. To illustrate the need from our own field, disabled children are the group most likely to be excluded from educational opportunities. In 1990 the EFA (Education for All) program was launched by the UN with the goal of universal access to primary education by 2015. EFA has made significant progress in reaching non-disabled children, bringing the number of out of school children down from 109 to 61 million, but it has largely failed to include children with disabilities, particularly those that require alternative modes of communication. UNESCO estimated in 2006 that a third of all out of school children worldwide were disabled, and there is little doubt that as we make progress on getting more children into school, disabled children are making up an ever larger proportion of those who remain out of school, so the 33% figure is likely now to be a considerable under-estimate.

Efforts to achieve a post-MDG framework which affords a better prospect that this situation will be more adequately addressed in the next phase of international development activity have made valuable progress over the summer, and ICEVI has been playing its part. The report of a High Level Panel under the chairmanship of the UK's Prime Minister and the presidents of Liberia and Indonesia contained some 20 references to disability. In particular it stated that no-one should be left behind, and that "targets will only be considered 'achieved' if they are met for all relevant income and social groups". The Secretary-General's report which is going to a series of UN meetings in September is also beginning to sound more positive. I will be representing ICEVI at these meetings and will be able to update you in future issues of the Educator and ICEVI's E-News.

C. M. Low

Colin Low
President, ICEVI

Message from **The Guest Editor**



Allow me to transport you 40 years back in time to a classroom in a school for blind children. Observe lovingly prepared books, shiny new Perkins Brailers and tiny amounts of information fed to those children. Now consider the classroom of today and the world of information many of us are able to explore.

In this edition of the Educator, we examine some aspects of the information society in which we live and its impact on education for blind and partially sighted people. We consider global developments which have the potential to massively improve access to information for all and present some case studies which demonstrate how the harnessing of technology can change lives while not under-estimating the huge challenges we still face.

The Digital Accessible Information System (DAISY) Consortium has been at the forefront of publishing for all for more than 15 years, and we hear from its President concerning not only its role today but the potential for inclusive educational publishing in the future. With the agreement of a World Intellectual Organisation treaty which has the potential to liberate accessible books throughout the world, we stand on the brink of unparalleled access to information which has the potential to change the world for all those currently disadvantaged by lack of access to education.

Pete Osborne
Head, International Development, RNIB



Message from World Blind Union

Arnt Holte, President

It is a pleasure to extend greetings on behalf of the World Blind Union and to update you on our work. Like ICEVI, we have begun a new program of work for the quadrennium 2013 – 2016, and are just now finalizing our workplan for the period. While we will continue to focus on some areas that were begun during the last period, there are a number of new areas of focus and priorities as well. I will take a few lines to provide highlights of these to you, but would recommend that you visit our WBU website at: www.worldblindunion.org for more detailed information.

As we articulated during the last term, our long term, twenty year vision is:

A community where people who are blind or partially sighted are empowered to participate on an equal basis in any aspect of life they choose.

Our four Vision ladders that move us towards achieving that Vision are:

1. That WBU is recognized as the authentic voice representing blind and partially sighted persons at the international level;
2. That our members at all levels have the capacity and capability to deliver their programs;
3. That Blind and Partially Sighted Persons live in a world that is fully accessible to them;
4. That the WBU is recognized as an international source of information in matters related to vision impairment.

To reflect these Vision ladders, we have divided our work into four Strategic Priorities and one Enabling Priority. Each of these are supported by specific Objectives and Initiatives to move us forward.

STRATEGIC PRIORITY 1: Human Rights and Representation

*Priority Leader: **Fredric Schroeder**, WBU 1st Vice President*

“Promoting full participation and equal opportunities for blind and partially sighted persons in all aspects of social, economic, political and cultural life and ensuring that their voice is heard at the global, regional and national levels in all matters affecting their lives.”

- F Representing Blind and Partially Sighted Persons at the United Nations and relevant UN Agencies at the global and regional levels;
- F Advocating for and promoting the human rights of blind and partially sighted persons;
- F Engaging with international development organizations to promote the needs and views of blind and partially sighted persons.

STRATEGIC PRIORITY 2: Capacity Building

Priority Leaders: **Enrique Pérez**, WBU 2nd Vice President, and **Rina Prasarani**, WBU Secretary General

“Strengthening the capabilities and capacity of the WBU regional structures and member organisations through optimizing strategic partnerships”

- F Improving employment opportunities for blind and partially sighted persons;
- F Developing the capacity of our members;
- F Supporting our target populations for full inclusion;
- F Supporting our members to implement and monitor the CRPD and other UN instruments at the National level;
- F Improving access to rehabilitation services by blind and partially sighted persons.

STRATEGIC PRIORITY 3: Accessibility

Priority Leader: **Ajai Kumar Mittal**, WBU Treasurer

“Working towards a world that is fully accessible to blind and partially sighted persons”

- F Improving Access to Information for blind and partially sighted persons;
- F Promoting access to low and high technology solutions for blind and partially sighted persons;
- F Promoting full access to the environment for blind and partially sighted persons including safe and independent travel and access to transportation.

STRATEGIC PRIORITY 4: Information Sharing and Collaboration

Priority Leader: **Maryanne Diamond**, WBU Past President

“Serving as an international information and resource focal point on matters in respect of blind and partially sighted persons and enhancing our ability to achieve our priorities through collaboration with others.”

- F Developing and making available a variety of resources to our members and the public through a variety of communications channels;
- F Developing and strengthening international partnerships and collaboration;
- F Promoting and advancing the use of braille through the work of the World Braille Council;
- F Working to include our various language communities within the work of the WBU.

ENABLING PRIORITY: Organizational Effectiveness

Priority Leader: **Arnt Holte**, WBU President

“Ensuring the relevance, effectiveness, efficiency and sustainability of the WBU”

- F Supporting the members of the WBU to optimize their representation of blind and partially sighted persons;
- F Overseeing WBU financial resources;
- F Developing and implementing strategies to generate resources to support the work of the WBU;
- F Undertaking a review of the WBU structure;
- F Monitoring and evaluating the effectiveness of the WBU operations to support its work.



Message from Deaf Blind International

Gill Morbey, President

I'm delighted to contribute a short note to The Educator. As I was writing, I was reminded of the strong collaboration between The International Council for Education of People with Visual Impairment (ICEVI) and Deafblind International (DbI).

DbI's roots go back to the 1950s. We started because the small number of educators in our field felt isolated, and needed to share their difficulties and their successes. However, because we were just emerging, our early conferences/seminars and meetings were organised under ICEVH (International Council for the Education of the Visually Handicapped - later changed to ICEVI).

In 1976 we developed into The International Association for the Education of the Deafblind (IAEDB), with 42 founding members from 10 countries. By 1986 it had grown to 197 members representing 24 countries. Finally, Deafblind International was officially born at the world meeting in Lisbon, Portugal, in 1999. So ICEVI was very much there for us in those early days, and we are proud of this long and supportive association.

It was wonderful to see this refreshed in April this year at the second joint Asian conference of ICEVI and DbI, hosted in Ahmedabad by Sense International India and the Blind People's Association. It is so important to keep these friendships and partnerships alive. Now more than ever we need to find creative and new ways to develop our activities. By working together we have better opportunities to share innovative ideas.

We are all in discussion about the post-2015 Millennium Development Goals. We know that people with disabilities are often left on the margins of society, yet there is a real challenge in bringing our causes and interests to the attention

of our governments. In the UK, organisations focused on disabilities are working together to influence the agenda. Certainly we know that Lord Low is fighting hard for our cause.

These are difficult times with so much unrest in the world; in the political arena, issues of poverty and repression edge out issues of disability. Then there are the huge economic challenges, with many of our member organisations struggling as their grants and funding reduce.

I make no apologies for this rather gloomy backdrop, because during our collective histories both ICEVI and DbI have flourished. Our members have always found creative ways to overcome problems. We have responded to difficulties and in so doing we have achieved "life changing" opportunities for individuals and "grown" our organisations so we can sustain these services.

In order to maintain and develop our communities, strengthen partnerships, and share ideas, we all organise a range of events and conferences. DbI is making the final preparations for the 8th European conference in Lille in August of this year. We very much look forward to welcoming our friends and partners.

One of our other partner organisations, The World Federation of Deafblind (WFDB), is organising their 4th General Assembly and 10th Helen Keller World Conference in the Philippines later this year. Planning has started for the DbI 16th World conference, which will be held in Romania in 2015.

We have faced difficult times before and have continued to provide our wide range of exciting programmes. Yes, certainly our work is "tougher", but we stand a much better chance of success together rather than apart.

We wish our colleagues and friends the very best from all at DbI.



WBU and ICEVI welcome UN Panel's report on post-2015

At a special summit on education held in Madrid on the occasion of the 75th birthday of the Spanish National Organisation of the Blind (ONCE), the World Blind Union (WBU) and ICEVI (the International Council for Education of People with Visual Impairment) have given a warm welcome to the report of the UN Secretary General's High Level Panel on the framework which should follow the Millennium Development Goals when they run out in 2015. The report recommends that people with disabilities should be much more fully included in the post-2015 framework than they were in the MDG's, particularly in the goals relating to poverty reduction and education.

The Education for All (EFA) programme under the MDG framework has had considerable success in reducing the number of children not in school from 108 million to 61 million, but this has meant that disabled children are progressively more marginalised. It is estimated that there are 6 million children worldwide with a visual impairment, 80% of them in developing countries. Of these, over 90% or 4.4 million receive no education at all.

Arnt Holte, President of WBU, and Lord Colin Low, President of ICEVI, said: "Being disabled more than doubles your chance of never enrolling in school in some countries. Equal access to education for all reduces inequality and poverty. We hope that this Panel's report will mean that blind and disabled children are no longer left out of account when planning education services so that they are enabled to take their rightful place in the community and fulfil their true potential".

Curriculum Access Materials Interview

with **Stephen King**, President, Daisy Consortium



Stephen King is President of the Daisy Consortium. He has been a Director of the UK's Royal National Institute of Blind people for more than 20 years, building on his career in commercial publishing. Stephen led the development of RNIB's publishing and retail activities, a role which brought him to the conclusion that people with a print disability needed a better way to read. This led to him being one of the founders of the Daisy Consortium which first delivered a widely adopted "Better way to read" for people with print disabilities, and has now gone on to work with the publishing industry to tackle inaccessibility at its roots; the publishing process itself.

You can read more about Stephen's DAISY story <http://www.daisy.org/stories/stephen-king-part-1> and <http://www.daisy.org/stories/stephen-king-part-2>.

Interview

What is the DAISY Consortium?

We are a global Consortium of organizations committed to equal access to information and knowledge regardless of disability; (a right confirmed by the UN Convention on the Rights of Persons with Disabilities, but as we know still a huge problem for people with sight problems). There are over 100 members, associates friends, educators and individuals from just about every part of the world in the consortium. You can join too! Take a look at who we all are <http://www.daisy.org/members>.

We pool our expertise, energy and resources to lead the creation of the best way to read and publish, for everybody, in the 21st Century.

We started life, and are best known in the blindness community for developing Daisy books; a better way to read. These are widely used for talking book and e-text services in education support and leisure reading special libraries. But as we know, special services can only scratch the surface of access to the vast amount of curriculum and leisure reading churned out by the publishing industry. Our partner World Blind Union (WBU) estimates that at best less than 5% of published materials are available to people with print disabilities.

So now we have turned our attention to cracking this much bigger problem. We're tackling it by creating global and local

partnerships with publishing and technology industries, standards bodies and governments with the aim of building a more effective solution, for everyone.

We have a HUGE ambition, but are well on the way to delivering it. Indeed in our 2012 annual report for our AGM in June, I plagiarise Winston Churchill by saying “The end of the beginning is in sight”.

We say on our website that success means:

People with disabilities can say:

I can access the same information at same time and cost

I have a great reading experience with eyes, ears or fingers

I can easily find the publications I want to read

More mainstream publications with built-in accessibility are available for me to purchase or borrow

There are far more access-enhanced publications available to me

I have control over my reading experience

The reading technologies I use are affordable and easy to use: DAISY technology helps me

People without disabilities benefit from:

The great navigable reading experience introduced by DAISY

The multi-media possibilities pioneered by DAISY technology

Improvements incorporated in the new generation of accessible mainstream e-publications

And Governments, industry and civil society benefit from:

Delivery of access to information and educational material suitable for developing countries and the industrialized world, as required in the UN Convention on the Rights of Persons with Disabilities
Affordable and efficient reading and publishing systems supported by all stakeholders

Improvements in access to information for those who are illiterate

Authors, publishers and libraries reaching more customers.

So why do I say we are making GREAT progress?

The e-book revolution that’s happening in trade and particularly in educational publishing in many countries is key. Most of the publishing industry world-wide is adopting a technical standard called e-Pub, the latest version of which contains most of what we know about how to make an e-book readable by someone, whether they are using their eyes, ears or fingers to read it using a generic or specialist reading device like a tablet, phone or computer. And even when there are remaining accessibility challenges such as diagrams, maths or pictures, e-pub3 files provide a much better starting place for specialist transcribers to produce what we are now calling “Accessibility enhanced” versions of a publication.

In short we now have a shared vision with many leaders in the publishing industry. Most publications in the future will be “Born Digital” with as much accessibility as possible built in by the author, editor, designer and distributor.

Where there are still accessibility challenges, there will be an efficient process of getting the essential access features added by specialists.

This all comes from our partnership with IDPF; (International Digital Publishers Forum), who describe themselves as “The Trade and Standards Organisation for the Digital Publishing Industry”. George Kerscher, Secretary General of the Daisy Consortium is also President of IDPF, and we also share Markus Gylling, who is both Chief Technology Officer for the DAISY Consortium and also CTO of IDPF. Through this partnership working we’ve enabled the publishing industry to benefit from the long experience of blind people as users of e-books; how to do navigation, how to synchronise sound, video and text etc. In exchange we’ve been able to get key accessibility features built into the standards, documentation and training materials.

We’ve of course got many more partnerships and projects to deliver our next big ambition. But I hope that gives you a flavour of our ambition and progress. If you want to read more take a look <http://www.daisy.org/mission>.

Can you explain the role of the Consortium concerning the delivery of curriculum access materials?

Many of our members are involved in trying to help people access curriculum materials. People like Learning Ally and Bookshare in the USA, Dorina Nowill Foundation in Brazil and the National Agency for Special Needs Education in Sweden and the African Braille Centre in Kenya. These members often deploy transcribers in central organisations and support networks distributed in schools and

universities. But everyone knows it’s a terribly inefficient and costly process, and despite heroic efforts most students are still really challenged keeping up with their peers due to delays and problems in getting equitable access to vital materials. Readers of The Educator will know this better than I do as you are likely to be supporting students to overcome these challenges.

At the same time we now have laws in many countries requiring educators to provide equitable access. Despite throwing money at transcription services it’s not working and equitable access is a mirage for many people today. Educators are increasingly looking to the publishing industry to help, particularly in higher and further education as in our digital age; supply of educational materials and examination papers becomes an online service delivered via educational resource services. We do need educators to push their suppliers more on this though. The noise from educators is still too gentle, and as readers of The Educator, you can play your part in pushing the issue of what’s in the procurement policies of any institutions you are involved with.

Educational publishing is now a global business, with billion dollar publishers such as Pearson, Reed Elsevier, Scholastic, Springer and Kodansha, and key technology suppliers like Apple and Thompson starting to understand that inclusion and accessibility can be a key competitive angle when bidding to supply schools, colleges, universities and exam boards. In fact Apple have made startling progress in the USA displacing incumbents when they demonstrate the built in screen reader in their products.

Interestingly most of the top 10 educational publishers now have a senior director with responsibility for accessibility and inclusion. It's these directors, and some evangelists in key publishing industry production departments that have turned to the Daisy Consortium for help, and have been in the vanguard of helping to make the e-pub 3 standard suitable for education publishing as well as regular trade books. The result is e-pub 3 knows about footnotes, tables, sidebars and many other devices used in textbooks to make them exciting to the print reader, but a big challenge to people using access technology.

At a publishing conference in the USA, the Head of Production for Pearson Education Worldwide stood up and committed the company to delivering on working towards the "Born digital, Born accessible" vision.

So our role as the Daisy Consortium is to find and inspire more accessibility evangelists in the educational publishing industry and help them implement this vision; and at the same time work with educators to help them understand what's now possible and help them create the demand and reward educational publishers and technology providers who get it right.

What are you particularly proud of so far?

I think the thing I am most proud of is the vision and ambition of our board and staff to change the world of publishing. In particular the multi-billion dollar business that is educational publishing. And I am even more proud of the partnerships with like minded people and organisations. For example, lead by World Blind Union, we have partnered with WIPO, (World Intellectual Property Organisation), the International Publishers

Association and other rights holders bodies to reform the world copyright regime. I am very hopeful that a new copyright treaty will be agreed to provide the framework for the expensive access enhanced Braille and talking books to be made available to far more people worldwide. Frankly it is disgraceful in this global age that if the accessible version exists somewhere, it's not usable by someone who needs it wherever they are. There's a lot more to do on this, but having been told 15 years ago copyright reform was impossible, this demonstrates what can be done when we have common purpose and vision.

What are some of the current challenges concerning the provision of curriculum access materials and how can these be overcome?

The big challenges are getting implementation worldwide of what's now possible via e-pub 3 standards and the new WIPO treaty. Plus some remaining access challenges such as maths and sciences and of course the necessary reading support tools such as speech synthesisers in some languages, and the cost of reading devices such as Braille displays.

We are tackling the Braille display issue head on with the Daisy "Transforming Braille" project.

I am very proud that RNIB is leading this initiative for the Consortium, and there are again worldwide partners in developed and developing countries. The project is making good headway finding a low cost technological solution. But the big challenge is going to be getting everyone to sign up to purchase together in volume which is going to be key to driving the price right down. Dear Readers of *The Educator*, please do your bit in enthusing

organisations and institutions you are involved with to gear up for this challenge. I hope we may be ready for procurement around 2015, so we need to start financial planning now.

There are other projects like Diagram funded by the US Department for Education which are tackling some of the remaining technological challenges. But many of the remaining challenges are going to be political and financial and battling the inertia of organisations and people carrying on doing things as they always have. This is where our collective voice is crucial in building the political will and priority for change.

I know that our partnership with ICEVI will enable us to develop this collective will and commitment in the education world.

And finally, based on your considerable experience, what advice do you have for professionals as they endeavour to make as much material available as possible?

It's crucial that we never give up, we keep pushing for equal access and never accept it's not possible. Inertia is our biggest enemy. Our own and that of the big institutions we are all involved with. Do join the Daisy Consortium, initiate and get involved with workgroups. Please don't wait for us to do something for you. We are just a collection of organisations and individuals committed to the equality cause, and there are far too many problems for us to solve driven from the centre. We want to enable you to solve your part of this big and challenging problem. I know readers of The Educator are committed to that cause. Together we can solve an important problem, equal access to curriculum. Through this we'd like to help you with your much bigger ambition, equality of access to education.

Together we can change the world.



What is DAISY?

George Kerscher, Secretary General, DAISY Consortium

The DAISY Consortium is a global consortium of organisations committed to a common vision of a world where people have equal access to information and knowledge regardless of disability; a right confirmed by the UN Convention on the Rights of Persons with Disabilities. To achieve this goal, the Consortium works to create the best way to read and publish in the 21st Century. This calls for fostering a global partnership between civil society, publishing and technology industries, standards bodies, and governments that build a more effective solution, for everyone.

DAISY denotes the Digital Accessible Information SYstem. A DAISY Book can be explained as a set of digital files that includes:

- One or more digital audio files containing a human narration of part or all of the source text;

- A marked-up file containing some or all of the text (strictly speaking, this marked-up text file is optional);

- A synchronisation file to relate markings in the text file with time points in the audio file; and

- A navigation control file which enables the user to move smoothly between files while synchronisation between text and audio is maintained.

The DAISY Standard allows the producing agency full flexibility regarding the mix of text and audio. A title may be audio-only, text-only, or a combination of full text and audio.

Getting Started

The DAISY project started in 1988 with the recognition of dissatisfaction with the current system of the Swedish Library of Talking Books and Braille, TPB. For the advanced talking book reader it is very time-consuming to read analog talking books. In 1991, TPB applied for a government grant for a three-year project to develop a new digital talking book format. The two most important goals for this project were to develop a system that could store more than 20 hours of continuous speech on a single CD-ROM, and to give the reader random access to the talking book from the table of contents.

Two years later, TPB commissioned Labyrinten Data AB, a Swedish computer company, to develop software that could meet the requirements for recording and playback of digital talking books. Features were to include:

- Ability to skim the text, phrase by phrase or section by section, where section is a collection of phrases;

- Ability to search for different parts in the text-based table of contents;

- Ability to search for specific pages in the talking book;

- Ability to place and search for bookmarks in the book;

- Ability to underline and make notes in the talking book.

The first prototype of the DAISY Playback for Windows was presented in Vienna in

September 1994. Originally intended to improve access to course materials for university and other students, the software gained the attention of organisations interested in a new common format for all talking books.

The DAISY Consortium

TPB invited other talking book libraries and organisations to form an international consortium for promotion of a new digital talking book standard, based on the DAISY concept. These organisations founded the DAISY Consortium in Stockholm in May, 1996.

The initial members were:

- The Japanese Association of Libraries for the Blind;
- The Spanish National Organisation of the Blind;
- Royal National Institution for the Blind (United Kingdom);
- Swiss Library for the Blind and Visually Impaired;
- The Dutch Library for Visually and Print Handicapped Students and Professionals;
- The Swedish Library of Talking Books and Braille;
- The Swedish Association of the Visually Impaired.

The Consortium adopted three key objectives:

1. To establish the DAISY concept as a de facto standard for digital talking books for the print impaired and for commercial audio books;
2. To manage the project, develop appropriate tools and systems and promote the concept;

3. To manage the use and licensing of the DAISY concept and properties to maximise the benefit to print impaired people.

Growth and Change

The new consortium met in Cambridge in October, 1996, and added the Association of Talking Book Libraries (Germany) as a member. Several libraries interested in the DAISY concept were invited to join the DAISY Consortium as Associate Members. Associate Members take part in the open sessions of the meetings and have access to the software, but do not enjoy all the privileges of Full Membership.

In 1997, the DAISY Consortium decided to adopt open standards based on file formats being developed for the Internet. The DAISY 2.0 Specification was released in 1998, and the 2.02 recommendation was approved in February 2001. Release of DAISY 3, the ANSI/NISO Z39.86 2002 Standard, was official in March 2002. This Standard was jointly developed by the DAISY Consortium, the National Library Service for the Blind and Physically Handicapped in the U.S., and a variety of other organisations in North America.

Today, the DAISY Consortium consists of 20 Full Members, more than 40 Associate Members, and more than 30 Friends.

Future of Digital Publishing

The DAISY Consortium and its member organisations continue to innovate in order to improve the reading experience for people with print disabilities. Collaboration is key to the success of this effort and the DAISY Consortium has built powerful partnerships with industry leaders to achieve its vision. Current projects and partnerships include:

DIAGRAM (Digital Information and Graphic Resources for Accessible Materials). The DIAGRAM Center has been established by the US Department of Education (Office of Special Education Programs) to make it easier, faster, and more cost effective to create and use accessible images so that students with print disabilities have timely access to the information they need. Project partners include Benetech and WGBH's National Center for Accessible Media (NCAM).

Save as DAISY. Developed in conjunction with Microsoft, Save as DAISY allows users to convert Microsoft Word documents into DAISY books. This add-in is also available for Open Office.

Tobi. Tobi is an authoring tool geared towards re-purposing published material, for example: to add audio narration to a text-only document, to synchronise a podcast with a structured script, or to review and improve an existing Digital Talking Book publication.

Obi. A free accessible audio book authoring software application that is used to produce DAISY 3 or 2.02 digital talking books, Obi is designed for ease of use.

Transforming Braille. The objective of the project is to identify a breakthrough solution which will radically reduce the cost of refreshable braille technology.

DAISY in the Mainstream

Today, circa July 2013, the publishing industry is in the middle of a digital transformation. The DAISY Consortium and the DAISY Standards have contributed to this revolution. With the approval of EPUB 3, the mainstream standard

for digital publishing has converged with those developed for persons who are blind and print disabled. The transition to EPUB 3 throughout the world will take time, but the DAISY Consortium is working to ensure that the same digital book will be available at the same time, and at the same cost.

Measuring Success

The DAISY Consortium has created a unique way of measuring its success in meeting its mission. We are working so people with disabilities can say:

I can access the same information at same time and cost;

I have a great reading experience with eyes, ears or fingers;

I can easily find the publications I want to read;

More mainstream publications with built-in accessibility are available for me to purchase or borrow;

There are far more access-enhanced publications available to me;

I have control over my reading experience;

The reading technologies I use are affordable and easy to use;

DAISY technology helps me.

When all of these statements are true, readers without disabilities benefit as well, as do governments, industry and civil society. When all of these statements are true, the DAISY Consortium will have fulfilled its mission to build “a more effective solution, for everyone.”

Post-2015 and inequality: Why the new Development Goals must deliver for people with disabilities

Colin Low, President, ICEVI & Vice President, RNIB

Dominic Haslam, Director of Policy and Strategic Program Support, Sightsavers UK

Frances Gentle, Second Vice-President, ICEVI & Lecturer, RIDBC Renwick Centre

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Introduction

The United Nations (UN) Millennium Development Goals (MDGs) were initiated in 2000, with a projected achievement date of 2015. Development of the goals involved extensive collaboration between the UN and 193 Member States that were represented at the Millennium Summit in New York in 2000. However, persons with disabilities and their representative organisations were not included in the MDG development process at international levels. As a result, the MDGs and their time-bound targets do not include disability-related priorities and reporting requirements.

The MDGs are based on several international development processes that took place in the 1990s and also the Millennium Declaration, formulated at the New York Summit and still widely seen as a progressive international declaration. The eight MDGs serve as a shared framework for action and cooperation among the international community in order to address the human development issues of extreme poverty, child and maternal mortality, gender equality, disease and HIV-Aids, hunger and under-nutrition, environmental sustainability, and universal primary

education. With the target date of 2015 rapidly approaching, the UN Secretary-General's MDG review in 2012 indicated significant progress towards achieving MDG targets for poverty reduction, access to improved sources of drinking water, gender equality, and child and maternal mortality.

In this article, the authors explore current global initiatives of the UN and the international community aimed at establishing a development framework/agenda that will follow the MDGs in 2015. The article highlights the ongoing impact of exclusion of disability-inclusive goals and targets in the initial formulation of the MDGs in 2000, and the importance of ensuring that the design and implementation of the Post 2015 agenda is inclusive of persons with disabilities.

The MDGs: A case of exclusive progress?

Working towards achieving the MDGs has been an important part of international donor development, cooperation, policy and practice. However, as noted by the UN Secretary-General in 2012, progress in achieving the MDGs has been uneven across and within regions and countries, and has not included all sectors of the population.

“Most often, it is the poorest and those most marginalised and discriminated against on the basis of, inter alia, gender, age, disability and ethnicity who have seen the least progress” (United Nations, 2012). The perspectives of the UN Secretary-General are shared by ICEVI and its international partner members. As mentioned earlier, persons with disabilities, including those with visual impairments were not included in the discussions leading to development of the Millennium Declaration and MDGs in 2000. As a result, the race to achieve the MDGs, which many donor organisations have embraced wholeheartedly, has not translated into equitable improvements for persons with disabilities (Vision Alliance, 2012). Many of the MDG targets are couched in terms of “halving” or “increasing”, rather than the more universal terms of “extreme poverty eradication”, “universal primary education”. As a result, national progress in achieving MDG targets can be made without changing the situation of the poorest and most vulnerable groups in a country. In some instances, national progress reports mask worsening conditions for the poorest.

Even where goals and targets are universal, persons with disabilities have been left behind. The second MDG for example, which calls for universal primary education, has led to good progress in many countries, in achieving gender parity in school access. However, being a child with a disability more than doubles one's chances of never enrolling in education in some countries (Filmer, 2008; UNESCO, 2010, p. 181). The World Health Organisation's World Disability Report (2011, p. 206) highlights the strong correlation between disability and poor education outcomes compared to other exclusionary

factors. It is estimated that over 90% of children with a visual impairment in developing countries receive no education at all (Vision Alliance, 2012).

There is now a chance to make this situation right. Currently the UN is engaged in a global consultation process to establish a development agenda and framework that will replace the MDGs when they expire in 2015.

Post 2015 Development Agenda

The UN has placed a high priority on ensuring that the process to develop the Post 2015 development framework is responsive to the perspectives and priorities of national governments and civil society, including individuals who are directly affected by poverty and injustice. The process has been hugely consultative so far, involving many national and thematic consultations and engaging civil society in a variety of UN initiatives. The UN consultation process is engaging with the private sector, academics, governments, and civil servants through online and print media, and face-to-face meetings. The most notable of these meetings are associated with the High Level Panel of Eminent Persons, discussed in more detail below.

The process of developing the Post 2015 framework is complex and multifaceted. It is important that international organisations representing persons with disabilities understand the process in order to maximise their engagement with it and ensure that the issues and priorities of people with disabilities are included in the framework's goals and themes. In this context, the International Disability Alliance (IDA) and the International Disability and Development Consortium (IDDC) have jointly developed a position paper recommending an equitable and inclusive

Post-2015 agenda for people with disabilities (<http://www.internationaldisabilityalliance.org>). These two global consortia, which represent more than one billion people with disabilities worldwide, recommend that the Post 2015 development framework should:

Enable a focus on the poorest, most marginalised groups, for example people with disabilities, ensuring the full and effective participation of people with disabilities and their representative organisations at all stages of the development process and in any new global partnerships and international co-operation efforts;

Be driven by a human rights approach that is compliant with the UN Convention on the Rights of Persons with Disabilities, including all projects and programmes, whether mainstream or disability-specific, with equality and non-discrimination as priority themes;

Include a stand-alone goal of equality and non-discrimination, as well as the obligation to pursue the underlying principles as a cross-cutting theme throughout the framework;

Include goals that are inclusive of people with disabilities, with disaggregated progress measures to reveal the impact on and inclusion of people with disabilities within each goal; and

Promote a shift in current understanding, definitions and data collection from the narrow focus on income, consumption and wealth, to a broader and more inclusive focus on poverty, progress and development (International Disability Alliance, 2013).

ICEVI supports the IDA and IDDC recommendations promoting the full and active participation of persons with disability at all stages of the Post 2015 framework's development, and equality and non-discrimination as priority themes. Full and active participation includes the preliminary stages of negotiation and planning stages, through to Post 2015 policy design, programme delivery and monitoring at national and local community levels. We support the promotion of equity and non-discrimination as priority themes of the Post 2015 framework, in accordance with the rights-based principles enshrined in the Convention on the Rights of Persons with Disabilities (United Nations, 2006).

Key initiatives established by the UN to promote engagement and consultation with the international community include a High Level Panel of Eminent Persons, a web-based consultation platform, a UN Task Team and an Open Working Group.

High Level Panel of Eminent Persons

The UN Secretary General has established a High Level Panel of Eminent Persons (HLP) to gather government and civil society input on the framework's content and themes, and to provide the UN Secretary General with recommendations that will be tabled at the UN Millennium Review Summit planned for September 2013. The Panel is co-chaired by the Prime Minister of the United Kingdom and Presidents of Indonesia and Liberia. The 27 members of the Panel include the Queen of Jordan and senior government officials from 15 countries. Their work is guided by 24 framing questions and they have already held several meetings, including sessions with civil society, private sector and other interest

groups in London, Monrovia and Bali. The World Blind Union (WBU), Sightsavers, and other organisations in the visual impairment field have made a point of attending meetings which have taken place in the margins of the High Level Panel meetings. It is noteworthy and encouraging that the meeting in Monrovia included a round table meeting on disability. However, the failure of the positive outputs from that meeting to make much impact on the communiqué was a disappointment. The main output from the HLP has included a report presented to the UN Secretary General at the end of May 2013. This report serves as a key input document into the Post 2015 section of the UN General Assembly meeting on the current Millennium Development Goals.

Global thematic consultation

In order to support the work of the High Level Panel, the UN launched a web platform in 2012, titled www.worldwewant2015.org. The web platform includes a series of online discussions on Post 2015 themes that are hosted jointly by UNICEF and UN Women, with support from the governments of Denmark and Ghana. Of particular interest to ICEVI and its member organisations is the first online discussion theme, which focussed on education inequalities and disadvantage.

Progress to date in the web consultation process has included contributions from approximately 600 global organisations and countries in Africa, Europe, the Americas and the Asia-Pacific region. As can be imagined, ensuring that any particular message is heard from so many competing claims for attention in such a forum is problematic. Accordingly, Lord Colin Low, as President of ICEVI, has called together a broadly-based group of parliamentarians and stakeholders in the

disability field to approach David Cameron, the UK Prime Minister, as one of the co-chairs of the High Level Panel, to drive home the disability message. All indications are that the case for disability to be reflected in the new framework is getting through, but we want to stiffen the Prime Minister's resolve to ensure that it is not abandoned as part of the inevitable horse trading that will take place at the last minute. So far the Prime Minister has not agreed to a meeting, and time for influencing the High Level Panel is running out. However attempts to influence the position of national governments will continue into 2014.

The UN has compiled a series of reports on the online thematic discussions. These reports are available at www.worldwewant2015.org. Members of ICEVI are invited to consider the outcomes of the global consultation process for international and regional EFA-VI planning and priority-setting.

UN Task Team

The UN Secretary General has established an internal UN task team to manage the development of both the Millennium Development Goals and the Sustainable Development Goals which were the main outcome of the Rio+20 environmental summit in 2012 (UNCSD, 2012). Members of the Task Team are drawn from across the UN system and to date, the team has produced a report titled "Realizing the Future We Want for All" and several thematic "think pieces", each led by the relevant UN bodies. The UN Secretary General has appointed a Special Advisor on Post 2015 Development Planning and a Head of Outreach who is responsible for ensuring that the process of developing the Post 2015 framework is more participatory

than the process used to develop the MDGs in 2000.

Open Working Group

An Open Working Group has recently been established to progress the process of developing the Sustainable Development Goals, as agreed at the Rio+ Conference in 2013. The Group has approximately 100 member countries, organised into 30 groups. These are still very early days in the life of the Open Working Group. The current plan is that after the High Level Panel reports at the end of May'13 and the UN General Assembly in September'13, the MDG process will move into the Open Working Group's area of responsibility, with ongoing support from the UN Task Team. This planned process is still a key area of debate as it means developing a single unified framework that brings both the Sustainable and Millennium Development Goals together, the plan being to accomplish this without sacrificing the necessary focus or resources required for either.

Other Post 2015 initiatives

In addition to the official UN Post 2015 initiatives, there are a range of initiatives contributing to the Post 2015 debate. The Beyond 2015 campaign is a global network of 600 or so civil society organisations campaigning for the framework's development through an inclusive and representative process and also for appropriate content once the process is completed. The campaign has been structured around "essential must haves" for process and a Vision, Purpose, Values and Criteria for content. (Concord Europe, 2013).

Other initiatives include several academic processes, one being the "Participate"

initiative, co-convened by Beyond 2015 and the Institute of Development Studies at Sussex University in the UK (Institute of Development Studies, 2013). This initiative intends to provide high quality evidence on the reality of poverty and bringing the perspectives of people living with poverty into the Post 2015 debate. Another is an online voting system called 'My World' that has been initiated by the Overseas Development Institute, UK and the UN Millennium Campaign (United Nations, 2013). The voting system is being used to gather a wide range of votes on the top line issues requiring priority in developing the Post 2015 framework.

What issues should we focus on in order to make the next framework more inclusive?

In the upcoming negotiations on a Post 2015 development framework, it will be critical to strike the right balance between setting the agenda and demonstrating the relevance of including disability-inclusive goals and themes in the broader framework. In this context, it is important to remind ourselves that the framework's agenda will largely be determined by the way the process is designed. In other words, the more inclusive and open the process, the more likely it is for persons with disabilities and their representative organisations to be able to make their voices heard and to influence the key issues included in the Post MDG framework.

One of the key themes that might be addressed in the Post MDG agenda is the fight against inequalities. In recent years, the gap between the rich and poor has not only been widening in developing countries, but is also becoming a global phenomenon. Closing the

gap by addressing the root causes underlying inequality will be a key challenge for the Post 2015 framework. This issue is of direct relevance and concern to persons with disabilities across the globe, as they often constitute the marginalised and disadvantaged groups in society.

Another key issue for the future framework will be environmental sustainability with the threat of climate change and the need to change consumption patterns in parts of the world. In this regard, the Post MDG agenda will have to provide answers to the pressing question of how to live within planetary boundaries. The consequences of climate change and scarcity or inaccessibility of precious resources such as water are already being experienced by people with disabilities in many parts of the world.

Access to basic services in such areas as education, health and livelihoods will continue to be a key feature of the development agenda after 2015. Despite significant progress in some aspects of this broad agenda, with access to basic education being the most prominent example, many people with a disability lack access to basic health, education and livelihood opportunities. Limited and inequitable access to basic

human services perpetuates the cycle of poverty and exclusion for people with disabilities, and limits their chances of living a productive and dignified life, thus having a wider impact on their community and local economy.

In conclusion, it is crucial that persons with disabilities and other marginalised and disadvantaged groups are given the opportunity to advocate for disability-inclusive approaches to development and implementation of the Post MDG framework. Rights-based and disability-inclusive principles and approaches help to ensure that people, their rights, their development and their participation are situated at the centre of the Post 2015 development process. It is imperative that economic benefits do not become the only measure of national progress in achieving the Post 2015 development goals. The development framework should be an exercise in prioritising, wherever possible, empowerment of the world's people so that each individual can make informed choices and equitably access development opportunities. Rights-based and disability-inclusive approaches are far from shared by all members of the international community and may prove to be the biggest battle yet to be fought in post MDG negotiations.

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75th Anniversary of ONCE



ICEVI participated in the 75th Anniversary of ONCE (Organización Nacional de Ciegos Españoles / National Organization of Spanish blind people) at the City Square, Madrid on 2nd June 2013. The impressive ceremony was participated by over 100,000 persons mostly from ONCE Network from the entire country of Spain.

ICEVI Officers including Lord Colin Low, President; MNG Mani, CEO; Suwimon

Udompiriyasak, Regional Chairperson, ICEVI East Asia; and Martin Osangiri Okiyo, EFA-VI Africa Regional Coordinator took part in the procession with Ana Pelaez, Director, International Programmes, ONCE, who is also the representative of ONCE on ICEVI's Executive Committee. ICEVI congratulated ONCE on this historic occasion and looking forward to effective collaboration in the future for strengthening the EFA-VI work.

Global standards help visually-impaired researchers

Margaret Mcgrory

Jim Russell reveals how a project is helping print-disabled researchers gain access to the books they need in formats they can use.

There is much talk about improving access to scholarly materials for researchers around the world but what happens when the access challenges go beyond a researcher's library not subscribing to a particular resource? What happens when the resource, whether subscribed to or not, is not in a format that the researcher can use because they have a visual impairment?

Over recent decades, the majority of accessible versions of books have been produced by charitable organisations (or "trusted intermediaries") that provide library membership services to people with visual impairments. Generally, these were narrated audio books on tape or CD, or hard-copy Braille or large print books produced using national copyright exceptions or licences.

However, the digital era is now enabling great advances in how resources can be produced and distributed in electronic accessible formats. Playing an important role in this is the TIGAR project. This three-year pilot project (2011-2013) is establishing new, global solutions that should help people with print impairments find and access published books, including scholarly works, in formats they can use.

TIGAR is establishing a virtual online catalogue of books produced in accessible formats and in different languages along with other technical and copyright solutions to enable these books to be shared electronically across national borders.

And the effects are already starting to be felt by researchers, as Kari Kummeneje of The Norwegian Library of Talking Books and Braille, explained: 'A research student in Norway needed an accessible version of a scientific book called Essential Cell Biology for her studies. It didn't exist in Norway but, through the TIGAR project, a DAISY audiobook was found in the collection of Learning Ally in the USA and supplied, with the support of CRC Press, through the WIPO technology solution. This demonstrates the real impact TIGAR can have on the lives of print-impaired people.'

The project is managed by and receives funding from trusted intermediaries, publishing organisations including the International Publishers Association (IPA) and the International Federation of Reproduction Rights Organisations (IFRRO), and the World Intellectual Property Organization (WIPO).

Participating publishers and trusted intermediaries sign a Memorandum of Understanding (MoU) that sets out a copyright solution for the cross-border exchange of electronic, accessible books. As an initial pilot solution, the MoU requires permissions to be

granted by rightsholders on a title-by-title basis. Once cleared, accessible versions of books can be exchanged between trusted intermediaries in different countries via a central ICT solution provided by WIPO. In some countries, a collective management society has signed the MOU on behalf of their publishing membership. This collective licensing model is likely to be extended in the future, removing the need for much of the title-by-title permissions clearance.

Technology

WIPO is providing the ICT solution to meet requirements that have been specified by a group including representatives of participating organisations. The first release of software is providing a central catalogue of accessible DAISY (a standard for accessible digital talking books that includes navigation and synchronised text with audio to make books and other resources accessible to print impaired people) and Braille books held in the existing collections of participating trusted intermediaries. The system will start by taking data feeds from each trusted intermediary to build the catalogue but this will evolve to utilise data harvesting solutions.

This will enable users within trusted intermediaries to search the whole catalogue, select books, request permissions clearance and ultimately download the books so they can be made available to print disabled users in their territory.

The delivery of the ICT solution is being phased. The first delivery will make the search and discovery function available to users within trusted intermediaries who can find books that their members ask for or would be interested in. They can search on various

parameters and filters including author, title, format, language and availability.

In due course, the aim is to enable members of trusted intermediaries to be able to search the catalogue. We would hope that this can be achieved without librarian support, although this element of the system has yet to be designed.

The system is being designed with accessibility built in for any user. As the project continues, further technology solutions will be developed, supported by appropriate licensing frameworks. These solutions will support the provision and use of electronic files by publishers. Publisher XML files can be converted using automated routines to create accessible versions including Braille and synthesised audio. This will significantly reduce the costs of production for trusted intermediaries and expand their capacity to deliver accessible resources.

In addition, further developments will support search and discovery of 'commercial' accessible versions. With the advent of EPUB 3, it is increasingly possible for mainstream products to have accessibility 'built-in' as standard. More and more products can be expected to become available and the technology will be developed so that commercial accessible products can be found and accessed by print-impaired people around the world. 'Best Practice Guidelines for Publishers' have been produced by the WIPO-funded Enabling Technologies Framework Project to explain how publishers can make their products accessible.

So far, trusted intermediaries in the USA, Canada, France, Denmark, Norway, Sweden, the Netherlands, Switzerland, South Africa,

New Zealand, Western Australia, Brazil, Jamaica, Namibia and Tanzania have signed up to TIGAR.

Over 30 publishing organisations are also participating. These include Elsevier, SAGE, Oxford University Press, Taylor and Francis, Cambridge University Press and Wiley as well as trade publishers like HarperCollins, Hachette Livre and Bloomsbury.

Organisations are expected to continue to join TIGAR at a steady rate, thereby increasing the 'pool' of accessible versions available, which will be of particular benefit for print-impaired people in developing countries. Any organisations interested in joining TIGAR may submit an enquiry to tigar@wipo.int.

Beyond the pilot

Although the end date for the pilot project is December 2013, work is already underway to establish an on-going, sustainable service

supported by continued development of licensing and technology solutions. This will include solutions to allow end users to gain access to TIGAR via their trusted intermediary service. Research students with print impairments, for example, would then be able to search the global catalogue for accessible versions of scholarly works and download them.

Jim Russell is an independent consultant working on the TIGAR Project Management Team with responsibility for co-ordinating rights holder aspects of the project. This article was originally published in Research Information in October 2012.

Links

TIGAR Project www.tigarnetwork.org

DAISY www.daisy.org

Enabling Technologies Framework Project
www.vipetf.org

New Regional Chair of ICEVI Europe Region



Betty Leotsakou was elected as the regional chair of ICEVI Europe at the European Regional Conference held in Turkey in

July 2013. Betty will assume office for the period 2013-2017.

Welcome Betty to the ICEVI Family!



Matching the Education and Life Chances of Blind Children in the 21st Century

Kevin Carey, Chair, RNIB Group, UK

*The following speech was given at the 2nd Joint Asian Conference of ICEVI & DBI “**Towards an Inclusive Tomorrow**” and challenges us to think about the path through education for blind children.*

Throughout the world in the 20th Century the education of blind and partially sighted children hardly evolved from a concentration on delivering a teacher-centred curriculum, epitomised by contracted Braille, to highly specialised professional aspirants (academics, lawyers, physiotherapists) which had little connection with the life chances of most children both in the developed and developing world. Furthermore, the first quarter century of the digital revolution has had little impact either on the ways of delivering the curriculum and on the curriculum itself. Massive changes in the 21st Century, such as digital technology, personalised identity, urbanisation in developing countries and mobile capital investment, require a child-centred, flexible curriculum based on peer normative life chances.

Twenty-five years ago, when I delivered the Keynote Address at the 1987 ICEVI World Conference in Wurzburg, at the kind and adventurous invitation of Wolfgang Stein, I opened with a painful recital of the difficult, if not perverse, technologies which were supposed to aid my education as a blind child in the 1950s and 1960s: the stylus and frame and then the Perkins braille for reading and writing; the Taylor frame and then the abacus

for arithmetic; and the use of raised drawing apparatus for depicting three-dimensional objects.

Shortly afterwards I left the field to work in digital information design and architecture but my recent return, through my role as Chair of RNIB and Chair of the World Blind Union Technology Working Group, has delivered a terrible shock: there are a few countries where educational methodology has changed but the world of education for blind children is largely the way I left it in 1992. There is still a grinding process of driving Braille literacy into students through mechanical technology; and there is still a perverse array of arithmetical and geometrical apparatus. Audio recording might never have happened; the explosion of spoken word broadcasting on television and radio is largely ignored; and 20 years of digital technology counts for nothing.

I am still haunted by the sad young men in Sikkim who hand copied Braille text on hand frames from generation to generation, replicating old mistakes and adding their own, for no apparent reason, for no apparent purpose. And I still remember 25 years ago taking a teacher in Malaysia down to the shopping mall to buy a video camera and

explaining that this was much better for a partially sighted child than a monochrome CC-TV.

This is a hard verdict, I admit, but if we do not face it, our children will be lost for the next generation - as they have been during the last three - and long after that.

Let me begin at the beginning. For children, particularly those who suffer from impairment in a society where under-employment and unemployment are widespread, the vocational element of formal education is critical but almost everywhere, blind children are expected to pursue three parallel curricula:

- The peer normative standard curriculum

- The 'additional' curriculum of communications skills and orientation and mobility; and

- The 'hidden' curriculum of social and negotiating skills.

If this formidable agenda, which must be delivered in a limited time during the child's formative years, is ranked uncritically, indifferent to the child's life chances, then, as almost always happens, Braille reading and writing will be at the top of the list and social skills at the bottom. The child will spend countless valuable hours learning to read hard copy Braille and, if she is unlucky, will need to acquire knowledge of contractions; then she will have to learn to write using a stylus or six-key mechanical braille. Then she will leave school and never use any of these skills again. She will never work and be lucky to find a spouse and become a socially integrated person. Her male equivalent will be in a slightly stronger position but with poor economic chances marriage will almost always be off limits. Such school leavers will have

been failed in their own countries by an education system that has failed all but the brightest children in the developed world in the 20th Century.

The truth is that Braille is not the liberator of the child but the remunerator of the teacher. Braille is what makes teachers of blind children teachers of blind children; it is their identity, their status and their purpose; and, to pursue this route, governments spend most of their education budgets for blind children on residential facilities where Braille can be taught and on expensive printing houses where Braille can be embossed. This is the world of the special education elite providers serving the special education elite consumers. In spite of all the lip service that is loosely paid to the 'integration', of blind children into mainstream schools, most of the budget in many countries has stayed where it is for more than 50 years; and during that period the move from residential, segregated education to mainstreaming education, primarily in the richest countries, has been undertaken not for the good of the child, but to save money.

Now this area of discussion is so controversial that I cannot leave the argument as it is, but must pose six clusters of questions:

First, is the time spent justified in the context of other curricular elements? How important is literacy compared, for instance, with social and vocational skills? Secondly, must all children learn to write as well as to read Braille? And must teaching be defaulted to contracted Braille where that exists?

Thirdly how do Braille skills relate to life chances? How many school leavers ever use Braille?

Fourthly, how has the concept of literacy changed with broadcasting and social media? Is substantial time justified, not in communicating information, which audio and broadcasting can do, but simply instructing the child on spelling, punctuation and capitalisation conformance?

Fifthly, what are sighted peers doing in the same place at the same time? and, Finally, if these first five questions are faced squarely, what percentage of children, in the system, benefit in adult life from this pattern of provision? And how many are excluded because of the high unit cost of this kind of provision?

Having said all this, I would not be so vehement if there was no alternative, but there is; and the place to start is to look at a heroic attempt at change in the 1980s that went wrong. During that period, development agencies embarked on a journey which did not grow only out of indigenous need but also out of an ideological movement in the United Nations in favour of community based education and rehabilitation. We built annexes onto standard schools for partial integration and even trained a few itinerant or peripatetic support teachers for children in the genuine mainstream; but we did not:

- Educate and alter the expectations of parents

- Amend teacher training courses

- Adapt the historical curriculum for rural or urban slum conditions

- Introduce a vocational component

So we made an ideological shift to determine the location of formal education; but we did not do anything else methodically enough.

Nobody but the ideologues at the UN really believed in this theory. You can always tell what somebody believes by what they do rather than what they say. Community based activity was fine for the poor but not for the rich.

In order to arrive at some kind of working model for where we need to be, I am going to undertake brief analyses, largely in respect of developing countries, of critical changes in:

- Economic prospects

- Technology

- Data consumption and production; and

- Skills sets

I will then draw the points together in the hope of sparking off a constructive debate.

1. Economic Prospects

The major factors in economic change, particularly in developing countries, are:

- Improving health and education

- Differential labour costs and the mobility of capital

- Automation

- Urbanisation

- Decline in the public sector; but

- Growth of the small/medium enterprise sector.

Except for noting its great benefits, the relevance of improving health and education is that it is increasing the intensity of the competition for jobs faster than they are being created. This phenomenon, in a slightly different form, has hit rich countries where there is global competition for skills.

Differential labour costs are moving jobs from richer to poorer countries but the production specifications are so tight, the pressure so great and the automation so intensive that it is hard to see how blind applicants can compete.

Urbanisation is rapidly eroding the paradigm of the blind subsistence agricultural worker, not only because of the actual migration but also because the land will have to be farmed ever more intensively to feed city dwellers who produce no food. I always thought that the blind farmer was something of a romantic delusion.

All over the world, blind people have been disproportionately employed by the public sector but with the exception of countries with high growth and efficient tax collection systems, public expenditure is falling and will fall almost everywhere in the foreseeable future.

But there is good news. The SME sector, largely promoted by middle class entrepreneurs to serve its own middle class and export, is going to grow rapidly. But, as we will see, the education required for a SME is very different from that required in a major bureaucracy.

2. Technology

Next, technology. Nobody can deny the way that digital technology is changing the poorest of countries. The mobile phone on its own has created a communications revolution. Instead of a minority of people in offices using highly complex secretarial skills and decorous Language, i.e. “Dear Sir, with reference to yours of the 13th inst”, with special reference to capitals,

punctuation and spelling, the majority of us now communicate cryptically from wherever we are. With few exceptions where the context is unhelpful, the finer points of grammar, spelling and punctuation are irrelevant, a minority and dying obsession, and the real point of what is said is not confidence in the organisation of the sender but confidence in the person of the sender. Today’s communicators have to be self-generating and self-confident.

New technologies have also opened up vast tracts of information; and this is where the blindness sector has crucially misunderstood its mission. For most children the act of reading opens up the prospect of rebellion; for blind children it maintains conformity and therefore the gap between blind children and their peers widens. This gap could have been mitigated in the past by broadcasting but the professional sector that had most to gain from it, but has largely ignored it most, has been education, a terrible collective act of snobbery, if anything, worse in the blindness sector where the benefits could have been so great. Now, at the beginning of the information revolution where rapid data acquisition, processing and self-confident publishing are all increasingly regarded as basic skills, we are still wallowing in hard copy Braille heritage text. We could have opted for audio; but we didn’t. And now we can opt for synthetic speech plus cheap, refreshable Braille. What will our response be?

As Chair of the Transforming Braille Project, to reduce the cost of Braille displays by 75-90%, it is interesting to me that the move for this radical change did not come

from educators nor from policy makers but from blind people who enjoy their 'smart' phones but want text under their fingers. The market for cheap refreshable Braille is massive, particularly when it is put alongside eReading devices and the already mentioned 'smart' phone.

Technology is becoming smaller, cheaper, more disposable, peer-to-peer supported and multi-functional. The era of PC training was a transitional phase for OECD countries which the rest are largely leap-frogging from no digital technology to self-tuition. This presents a fantastic opportunity for blind children and adults; but what will we do with it?

3. Data Production and Consumption

50 years ago, in countries from the richest to the poorest, people consumed more data than they produced. Even when their occupation required it, production was lower than consumption, the main data production being letter writing and form filling, unless you count talking on the telephone which was always ephemeral and unarchived. Today, wherever there is a 'smart phone' people are publishing. Most of us are still net consumers but what increasingly identifies us as who we are is what we publish. We may still watch three hours of television a day but hundreds of people know us through Facebook or Twitter, or because we handle business calls on our own behalf or on behalf of an SME. Except in the shrinking public service, we no longer prepare material on the basis of fixed procedures where orthodoxy is rewarded. In the new SME sector creativity is rewarded.

4. Skills Sets

Finally, it should be obvious from all of this that basic skills sets have changed from reading, writing and arithmetic to consuming, processing and publishing massive amounts of data very quickly.

But if you only remember one point on skills sets it is the importance of creativity. So let me say a few words about that, based on Margaret Boden's great taxonomy of creativity.

Boden divided creativity into three types:

Collage: equivalent to a DJ stringing together a sequence of songs

Variation: equivalent to a jazz musician "exploring known space";
and

Transformation: equivalent to developing a new musical paradigm

Now let us allow that this third form, the transformational, is rare which is why it is a waste of resources to base the whole educational system on this aspect of creativity. Let us also allow that, outside the DJ and the fashion retailer, there isn't much money in collage; but the vast majority of lucrative activities undertaken in society are based on variation and, what is more, it is variation that largely cannot be automated nor improved by migrating production to the location of the cheapest labour. The creation of variation is the essence of design, cooking, fashion, games, light fiction, pop music, photography, toys; in fact it is the basis of almost all of our popular culture and lifestyle.

The explosion of digital technology in the context of global markets presents us with massive opportunities as well as formidable challenges.

Here are six:

First, and as a foundation stone, the establishment of communities of practice in teacher training and teaching based not on the rather sterile eLearning environment but on internet broadcasting

Secondly, the conversion of special education budgets from analogue to digital technologies

Thirdly, the liberation of education from the conformist, consumption model to the creative, productive model

Fourthly, the opportunity for all children to build and publish their own identity

Fifthly, a breakdown in the dichotomy between the physical centre of excellence and the distributed consumption of its production;

and

Finally, a radical shift from dependency to co-production in which our children and young adults grow with teachers instead of obeying them.

But none of this is going to happen unless we change. Resources will be tight and the technology will be problematic but the greatest obstacle to change is the people who oppose it, who find any number of reasons why things must stay as they are. Such opposition is frequently based on fear of risk or fear of falling standards; but in most countries of the world most blind and partially sighted children are getting little or nothing; so they don't know anything about standards and risks. Our challenge is to marry high quality with mass production. If the special school is a somewhat dilapidated Rolls Royce, we need to trade it in for a fleet of cheap and cheerful family saloons so that all children get to ride on the road to fulfilment.



Accessibility and Textbooks in Brazil

Pedro Milliet, Dorina Nowill Foundation for the Blind, Brazil

The following article represents a case study of access to curriculum materials in Brazil.

The accessibility of curriculum materials or textbooks in Brazil has undergone a major change over the last four years. Until 2008, the only means of access for students with visual impairment were braille books.

However, because of the complexity and cost of production, many of the titles were not sent to schools until the middle or even the end of the academic year, making participation in classes very difficult for these students. In 2009 the Ministry of Education decided to request from publishers that all books bought by government should also be delivered in DAISY format, as well as in printed version.

The Textbooks' Programme for public schools in Brazil is the largest book business of the country, involving the purchase of all titles used in schools. With more than 60 million students, this means an average of 200 million printed copies per year. One third of all titles are renewed annually, according to the following division: fundamental, from the 1st to the 5th grade, intermediate, from grade 6 to grade 9, and medium (high school) for the last 3 years.

There are now about 65,000 students with visual impairment enrolled in Brazilian public schools, and 8,000 more enrolled in private schools. This number is much smaller than the actual demand, which is estimated at 350,000 students. With the start of the accessible books programme in DAISY format,

and the provision of computers to all students with visual impairment, enrolment has increased year after year. We predict that in a few years all children will be enrolled. The number of students with visual impairment in higher education, currently estimated at 10,000 students, should also have a significant impact, directly increasing employment opportunities and greatly improving citizens' quality of life.

Because it is critical for young children to form braille literacy skills and have access to a concrete language, the books offered for children in the first 3 school years continue to be produced in braille. This production is performed primarily by the Benjamin Constant Institute, which is a governmental braille production unit. For students from 4th grade to the 12th grade, books are available in DAISY format. Besides being much faster to produce, DAISY has features that facilitate its use in classrooms, such as pages, phrases, sections and chapters' navigation, bookmarking and notes, spelling, searching for keywords and phrases and more. However, the mathematics books are still produced in braille, due to the complexity and difficulty of audio transcription of formulas and graphical representations, and geometry figures.

The Dorina Nowill Foundation has been producing books in DAISY format since 2006, and developed an online system to edit and convert books in the cloud. The Dorina DAISY

Producer allows sharing of resources like synthesised voices (TTS), databases of abbreviations and pronunciation corrections, and online support direct to the editor, as well as quick update and inclusion of upgrades.

To meet the annual production demand of textbooks for the programme of the Ministry of Education, two professional units were assembled. There is an internal team on the Dorina Nowill Foundation, with 20 editors, 6 reviewers and two coordinators. There is also a network of more than 30 editors headed by Eduardo Perez and the author, through our company Results Software Ltd. These two teams work in partnership for the production system development and the reading application DDReader.

The number of pages converted annually ranges from 120,000 to 200,000. Approximately 200,000-400,000 images are described, of which about 30% are of medium to high complexity. These images include geographical and historical maps, scientific diagrams and illustrations, paintings, and photographs. For the description of these images, specialist teachers in the respective areas are employed and trained in the specific aspects of audio description.

A company in India, Technofunda, makes the first part of the conversion, linearising the original PDF book, delivered by publishers, and providing a HTML version from which both Dorina Nowill and Results will do the work of adaptation and final conversion. All books are converted to full text, full audio DAISY 3 format.

Another aspect of textbook production is related to the production of books for the curricular languages. In Brazil both English

and Spanish are required in elementary school 6th to 9th grades, and high school. The production of these books demands not only editors who master the language, but technical solutions to resolve the question of presenting more than one language in the same book. This is done with the production system DDP (Dorina DAISY Producer), cited above, which provides the ability to mark passages in different languages for its correct audio conversion using synthesised voice. The system offers two voices in each foreign language (English and Spanish) and six voices in Portuguese. Sharing the TTS resources through the online system brings significant savings in license costs. The books are read with MP3 audio, since students usually do not have voices in multiple languages installed on their machines.

The work is commissioned by and paid for by the publishing companies, as they are contractually obliged to provide the accessible format to the government. The relationship with publishers has been very productive and this requirement has brought them a closer view of the issue of accessibility. However, they are still not able to absorb the conversion work.

Some significant difficulties remain in this process. When the Ministry of Education decided to opt for production in DAISY format, Dorina Nowill Foundation for the Blind was the only agency that mastered the technique of editing and converting books into this format. This brought a huge challenge to meet the demand. Superficially, the conversion process may seem simple and easy. However, when it comes to textbooks, many problems have to be solved to obtain a minimum quality and

maximum accessibility. Descriptions of complex images such as maps and diagrams, adaptations of exercises, linearisation of texts and tables, replacing abbreviations, books in more than one language, and other problems demand time and expertise.

Another important issue concerns the language being used in these adaptations and descriptions, which should always be carefully suited to the age of the students. The balance between the depth of the descriptions and the objective didactic point of view needed is also an essential element of quality. Very simple or very extensive descriptions bring difficulties that must be avoided. This knowledge was not available in publishing companies, nor even in government agencies. It is true that production in braille also requires some knowledge of these, but the demand today is much broader and there is much less time to accomplish the task.

Another difficulty which unfortunately persists in the Programme is the fact that the producers are prevented from producing books in accordance with the DAISY format. Instead, they must produce in accordance with a playback application developed by the Ministry of Education at the beginning of the programme, called MECDAisy. This application has serious compatibility issues, requiring some changes in the production of books and restricting some important DAISY features. For instance, MECDAisy isn't capable of reading DAISY books with more than a text file, which is fundamental to publish large books that need to be divided into multiple text files. Books with over 400 pages present serious difficulties of use. The app also does not access the attribute "alternate" used for

image descriptions. The Ministry's requirements determined that the descriptions should be entered directly in the original text, which creates interference in the flow of the text and creates difficulties in reading, especially for low vision students.

Such difficulties could be resolved with the adoption of the free, Open Source DDAReader produced by Dorina Nowill. Unfortunately an incomprehensible policy does not allow this solution. Most Brazilian students use DDAReader, but textbooks have to be produced for validation with MECDAisy. Another restrictive aspect is the lack of support for MathML in the official app, preventing formulas presented in books to be navigable, which led to the production of math books in braille. However, for low vision students, this is a significant loss.

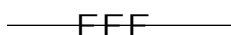
Some didactic solutions had to be produced outside of the government programme, such as dictionaries of Portuguese and foreign languages, because MECDAisy does not support the use of books in multiple files and does not allow the search for specific entries in the dictionary. Dorina Nowill Foundation sought funds from the private initiative and the São Paulo state government to produce this essential material to the students.

For the future, new challenges arise. The Ministry of Education in its books' Programme for 2015 (production in 2014), ruled that the books should be delivered in print and digital format for all students. However, the digital format was not defined. Publishers, not yet engaged in the process of writing books in digital format, are opting to deliver books in PDF format enriched with interactive objects, such as slide shows, videos, links, and

animations. The choice of EPUB 3 format would have been a breakthrough for universal accessibility and open a path of convergence with publishers worldwide to achieve accessibility with digital books. The Ministry, however, decided to keep accessible books produced for this programme in DAISY 3.0 format, which keeps the duplication of formats. Both Dorina Nowill Foundation and Results Ltd. are working to persuade publishers to migrate to the EPUB 3 format, not only for students with visual disabilities, but for all students.

In short, Accessible Textbooks Programme for public schools in Brazil, also called MEC Daisy Programme, has brought significant advances in the accessibility of basic education curriculum, but still has many obstacles to

overcome. Closer ties between the institutions dedicated to the production of accessible digital books like Dorina Nowill and its partners, and government agencies such as the Ministry of Education, would bring more consistent results for the programme and consequently higher quality accessibility in the country. We still need to address the issue of accessibility of books in higher education courses. Meanwhile, in Brazil, only Dorina Nowill Foundation offers reference books for students and professionals in accessible format, but this is much less than what is needed. We expect that the evolution of the digital book in its open format EPUB 3 can significantly accelerate and expand the access to this material.



Meeting of the INGO partners of the Latin America Region

The EFA-VI Campaign of the Latin America region is strongly supported by many international organizations such as CBM, ONCE, Perkins School for the Blind and the Royal Dutch Visio who are also the International Partner Members of ICEVI. In addition to these international partner members, the campaign is supported by ONCE-FOAL and ULAC.

A planning meeting of the supporting INGDOs will be held on 11th and 12th September 2013 in Buenos Aires, Argentina to coordinate the work with a purpose of bringing synergy. ICEVI will be represented by Lord Colin Low, President; Lucia Piccione, First Vice President, and Cristina Sanz, Regional Chair, Latin America Region at this meeting. A coordinated plan of action is expected to emerge from this meeting and readers will find more information on this in the Latin America page of ICEVI website.

Bookshare – An accessible online library for people with print disabilities



Jennifer Pletcher wrote recently saying “Our 6 year old daughter Finley has LCA (Leber Congenital Amaurosis). She has only 20% usable vision and reading has always been a struggle

for her as she got easily frustrated and didn’t want to read. We were introduced to Bookshare by her TVI, and it has opened her world to reading! Because we could enlarge the print to any size she needed, she started to love to read.

And when her eyes were tired, she could easily listen to the books she loved. Now Bookshare is a daily part of our lives. We have seen Finley grow and blossom thanks to your educational services to benefit children with low vision. We will be forever grateful.”

We at Bookshare hear stories like that day after day and are grateful to be able to make such a difference in the lives of so many children and adults. Bookshare is the world’s largest library of accessible eBooks for people with print disabilities with over 190,000 books and over 250,000 members in more than 40 countries.

Bookshare allows members to open the books on a Braille device, on a computer (via our new Web Reader tool), on a tablet or phone (via the apps Read2Go for iOS devices and Go

Read for Android), on MP3 players, and on a myriad of assistive technology devices and software. In short, Bookshare is available anytime, anywhere to read and/or listen to books and periodicals in various accessible formats including DAISY text, BRF and audio. We are also exploring providing UEB in response to its adoption by BANA.

In addition, members can read the books with word or sentence highlighting using different colour fonts, background and foreground colours that allow them to read in the way that’s most helpful to them. And the rapid growth continues - working with over 180 educational publishing partners, we are adding 3000 books a month from volunteers and publishers.

Before Bookshare, people with print disabilities were extremely limited in their selection. We hear horrible stories all of the time in which students were told that books needed for classes were unavailable in formats that they could read and that there was nothing that could be done. Grades suffered. Futures suffered. It was inexcusable. Some people could read large print books or books in Braille which are heavy, expensive and not available for most titles. Some began the time consuming task of scanning books and putting them into digital files. Bookshare was created to help people share these books amongst themselves, making us the first such library built by its users, and a pioneer in the eBook field beginning back in 2002.

In 2007, an award from The US Department of Education Office of Special Education Programs (OSEP) allowed Bookshare to grow its collection, make more teachers aware of the books available, and train them how to use the tools. Volunteers, starting with our users, have always aided our mission. Now teachers volunteer their time via our Mentor Teacher program to help other educators learn about, and learn how to use, Bookshare. They have contributed immense amounts of knowledge and time to help us give our users what they need.

International

Bookshare also offers accessible books to people all over the world with qualifying print disabilities—they can either purchase individual memberships on their own, or work with one of our partners.

Indeed, we have a large and growing international presence with members in over 40 countries—with at least 90,000 books available in most of them, and covering multiple languages (including books in Afrikaans, Arabic, French, German, Hindi, Polish, Spanish, and Tamil). We partner with local organizations serving people with print disabilities in countries such as India, South Africa and Australia and many others. More information about international membership and our local partners can be found [here](#).

We partner with groups around the world in another important way as well. Since our scanned books need to be proofread, we use this as an opportunity to work with social impact outsourcing programs in Kenya, Laos, India, and the US that give their employees both a job and an entrée into the information economy, thus delivering an extra benefit from our funding. For example, people with

disabilities employed by one of our impact sourcing partners in India have gone on to work at major Indian IT firms after their tenure.

The Larger Story

Bookshare is part of the Benetech Global Literacy Program, run by Betsy Beaumon, which seeks to overcome the numerous challenges people have in gaining access to information critical to their lives. Also included in the program are Route 66 Literacy and the DIAGRAM Centre.

Global Literacy, along with Human Rights and the Environment, form the core program areas of Benetech, a non-profit organization which develops and uses technology for social good. It was founded in 1989 by MacArthur Award winner Jim Fruchterman.

Route 66 uses a unique teacher-tutor model that empowers people to teach others how to read. This technology is designed to require no special training, making it as easy as possible to use. The DIAGRAM Centre is actively working to overcome the barrier images can create for people with print disabilities, revolutionizing access to images and math along with our partners NCAM (The Carl and Ruth Shapiro Family National Centre for Accessible Media at WGBH--a member station of PBS) and the US Fund for DAISY.

Established and funded by a five year research and development award by OSEP, timing for this, and our other new work on standards, and tools, could not be better given the current period of significant change in publishing and education.

At The Convergence of Accessibility and Digital Publishing

We are in a unique time, with the advancement of the new EPUB3 format in

digital publishing, bringing accessibility into a mainstream format, new ways of online learning, the growth of OER (Open Educational Resources), the new U.S. Common Core education standards, and technology that now allows anyone to be a publisher. Together, they provide an opportunity to move accessibility forward in a way never before seen. This creates an opening to change how things are done from the start, allowing accessibility to be built into the creation of materials –or, as we call it, “Born Accessible” making them cheaper, easier and faster to produce. The excuse is gone. Content creators can truly make content born accessible and now is the time.

With our ties to education, publishing and technology, we are in a strong place to help, and are addressing the constituents, from publishers to distributors and reading tool makers, to inform them about making their products accessible. This includes the content areas that have been so difficult for our field to achieve, including accessible images and math.

First, we are working with the publishers to make sure that they take advantage of the accessibility features available in the new EPUB3 format. We put together a guide for creating accessible EPUB3 files for publishers with the top ten tips for accessible EPUB3 files which has helped them begin to take accessibility into their planning.

<http://bookshareblog.wpengine.com/2013/03/10-tips-for-creating-accessible-epub-3-files/>

We worked with the IDPF (International Digital Publishing Forum), the group behind EPUB 3, on their Radium open source reader project. This project provides publishers and retailers with a way to see how EPUB3 works, and to

have a base for future reading tools. We added accessibility features, creating our open source Web Reader for our users to stream Bookshare books, while providing an easier path for anyone to build accessibility into commercial content and reading tools.

As technology changes, content creators now extend beyond traditional publishers-indeed anyone and everyone can be a publisher-so it is crucial for our work to extend beyond traditional content creators.

We are working with Creative Commons on OER’s (Open Educational Resources). In fact, we have put together an Accessibility Sprint to brainstorm and prototype new and improved open source solutions for creating, discovering and delivering educational content to students with disabilities. Over 20 developers, designer and subject matter experts are planning to attend.

And The Hard(er) Stuff...

As if those challenges weren’t hard enough, Global Literacy is taking on the hardest one of all: STEM (Science, Technology, Engineering and Mathematics). As the key to training for success in today’s more technologically advanced society access to these materials are all the more important.

Under the DIAGRAM Centre we created standards, best practices and guidelines for images in order to include all necessary information in the descriptions in ways that can be created in a consistent, understandable way by all creators. Tactile and smart graphics are a significant part of our DIAGRAM work, with multiple projects underway. These include a wizard-based decision tree to help decide when a description or a tactile is required and a set of

tools to add QR Codes (quick response codes which consist of black dots on a white background in a square) to tactile graphics, enabling long descriptions to be read out loud by a mobile device.

We also developed POET, a free open source tool. It enables crowd sourced image descriptions and provides an image accessibility checker, to indicate the number of images that have been described. Over 30,000 images have already been described by Bookshare volunteers and DIAGRAM is encouraging publishers to use POET directly, or as a model for supporting accessible images in the creation of their books.

Math is a particularly formidable challenge. MathML is the best solution for people with print disabilities, and we are only beginning to see publishers creating MathML from the start (but we're thrilled to see that work happening!). Therefore, Benetech is working on tools such as MathHelper, which is built into the POET tool. It allows a user to create MathML where there was once only an image of math equations. Even with MathML in the books, how do students actually solve math problems and show their work in an online environment? Another math project under the DIAGRAM Centre will help students to input math in an accessible manner. Finally, currently in beta, Web MathTrax, is a graphing calculator (based on NASA's open source MathTrax project) that allows users to turn common equations into visual graphs accompanied by verbal description and a file suitable for creating a tactile graphic.

Now How Do I Find Them?

With so much work and progress, it is crucial that these accessible resources can be found by educators and students as well as by the

general public, and we have been working on making sure that they can be. Learning resources can carry metadata, which are basically all the information that describe a given book or learning object (such as number of pages, dates etc). Through funding from the Bill and Melinda Gates Foundation, we've defined accessibility information in conjunction with many key players across the accessibility field, worked with the Learning Resource Metadata Initiative (LRMI) to be sure it is included in educational metadata, and at the highest level with *schema.org* (which includes Google and all major search engines) to make sure the resources are found in search.

And More...

In addition to all of that, Benetech's Global Literacy work extends into other areas in the field as well, partnering with many open source projects to help move the whole community forward (such as LibLouis, DAISY Pipeline, MathJax), collaborating on moving accessibility forward in mainstream standards, working with groups such as inBloom and the Learning Registry on personalized learning. The work we're doing with our partners is cutting edge and innovative. And it needs to be, for too long people with print disabilities have been left behind. With technology behind us, there is nothing that should hold people back from accessing information critical to their lives. Please join us, via Bookshare, DIAGRAM, or our other efforts, to realize the true potential of access for all across the world.



ISaR International: An Internet Resource Centre for Parents, Teachers, and Administrators

Emmy Csocsán, PhD, Professor and **Solveig Sjöstedt**, MA, Honorary Counsellor of Education

Do you love to surf the Internet to find information useful in your work? It is all there! Visual impairment: 5.5 million hits ... inclusion: 126 million hits ... eye diseases: 120 million hits. It takes you hours and hours to find relevant information. Braille: 28.3 million hits ... low vision: 186 million hits. Do you really have all the time it takes?

*Now there is a short-cut: ISaR International. What does ISaR stand for? It stands for "Inclusive Services and Rehabilitation". ISaR International is a virtual internet-based resource centre featuring useful information on inclusion of children and young persons with visual impairment into the regular school system. Just click **www.isar-international.com** and browse around.*

Introduction

ISaR International's target groups are all the persons involved in teaching and including children and students with visual impairment into the regular school system as well as the students themselves.

Are you a teacher in a mainstream school, in a resource centre or in a special school? You will find useful information on school subjects, inclusive ideas, classroom management etc.

Are you a parent? See what you can expect from the school, how you can help your child, implications of your child's eye condition, 'success stories' written by young persons who have gone through school and found a life worth living.

Are you a university student or lecturer? Lots of useful materials, lecture plans, information about authors, books and readers.

Are you involved in planning inclusion of children with visual impairment in your

country? Some who have done it already have contributed their ideas. You do not have to re-invent the wheel, it has been done already and just needs your local touch and adjustment.

Even ophthalmologists can benefit from ISaR International as some of the world leading ophthalmologists have provided us with their materials.

The Team

Emmy Csocsán and Solveig Sjöstedt are the ISaR International team in charge of the content, PR activities and quality management. Together they have over 100 years of experience, including university lecturing, school and resource centre management, and education of children and young persons with visual impairment. Both Emmy Csocsán and Solveig Sjöstedt have been deeply involved in ICEVI Europe's teacher training programs and the twinning contacts initiated by the former ICEVI Europe president Herman Gresnigt.

Emmy Csocsán, PhD (Hungary) has worked as a teacher at the school for the blind in Budapest. She was lecturer and head of the Department of Education of the Visually Impaired at the training college for special education Bárczi Gusztáv in Budapest, Hungary. She has also been working as a professor at the Faculty of Rehabilitation Sciences at the University of Dortmund, Germany. She has regularly lectured at the Free University of Bozen, Italy. Emmy Csocsán is now co-teaching with the other ISaR International team member Solveig Sjöstedt, former director of the Swedish school for the visually impaired in Helsinki, Finland. Emmy Csocsán was among those initiating the German-language predecessor of ISaR International a decade ago.

Solveig Sjöstedt worked for two years in Kosovo and two years in Romania after her retirement, on teams concerned with inclusive education for children with impairments. She is co-teaching at the German Jordanian University in Amman, Jordan, and at SEKOMU Magamba/Tanzania.

Since 2008 the team is working on ISaR International. The work is done on an volunteer basis as it is difficult to find funding for international projects in our field of work. Why do we do it? We do it because we know that inclusion means spreading knowledge and skills from those who can and know, to those who need it. Inclusion has no borders; knowledge is needed everywhere. The ones who have had a chance to get a proper university education in visual impairment and who have had decades of experience in this very special field have an obligation towards others, wherever they are. So, please join us, be one of our team, share your knowledge; a

teacher alone with a visually impaired child in her classroom might need exactly what you may provide. ISaR International is a perfect platform for this kind of sharing.

History

ISaR International is the 'daughter' of the German-language web-based databank ISaR, the largest resource centre in the field of inclusive education and rehabilitation of children and young people with visual impairment (www.isar.de). The web-page was created by Dortmund University some ten years ago, when the need for a virtual country-wide 'resource centre' in the form of a database became evident. More and more children and young people with visual impairment in Germany were being integrated into the regular school system, and the decentralization of the educational system made it crucial to spread the knowledge and know-how that was unique to the special school system.

Counselling and support for children with visual impairment in regular schools and in special schools require special knowledge, raise many questions, and cause some problems all over the world. Many of these problems have been solved by teachers, parents and other people involved in their education. Many good learning materials have been worked out, methods tested, and organizational forms established etc. But in most of the cases the specific knowledge and know-how referred to one particular situation and the knowledge gained, remained in the given school or institution.

The thought of enlarging the number of persons who may profit from ISaR resulted in the English web-site ISaR International which

started to operate 5 years ago using the technical facilities of the German version.

When the German ISaR started there were very few data banks on inclusion and visual impairment. Today there is an abundance of them which makes finding useful ones really time consuming and difficult. What we want to do is help you find the most relevant ones in this 'jungle'.

Data Bank

So what do we have on ISaR International so far?

The Didactic pool has been divided into four sub categories:

- Early intervention;
- Primary education
- Secondary education;
- Higher education.

Most materials will be found in the primary and secondary school sections.

Among the materials in the "general topics" you will find a wonderful paper, "It's fun to learn together". There is a 125-page Reader, "200 Years of Experience and the Challenges of Today", which gives a broad palette of information on teaching children with visual impairment. Many more articles on inclusion can be found there.

Mathematics has often been considered to be difficult to learn for children with visual impairment. In the maths section you will find a large number of mathematical games which make learning easier as well as fun – and it will be fun for the sighted in the class as well. And why not try to make a Sudoku? Great fun!

We hope that the didactic pool will be our 'flag ship', and for this we really need and want your contribution. Many persons have already sent us their materials, but more is needed. We have an extended user-friendly link page with around 150 links when this report was written. They are divided into the following sub categories:

- Assistive technology
- Education subjects
- Information about vision and visual impairment
- Libraries, tactile books
- Organizations: Schools, resource centres, universities

The links are from all over the world. We have, of course, only been able to put in those who have English homepages in addition to the local language(s). But the world is big and the large number of countries means that we have not been able to cover them all. Please help us! So, if you cannot find your own English homepage here, please contact us.

Thanks to help from TU-Dortmund, the number of authors listed in the literature data bank is at the moment over 400. Books, articles, reports, and original contributions to ISaR can be found there. Many of the contributions can be downloaded, which makes them even more useful. We have received positive feedback especially from persons doing research.

We have tried to find good learning materials that we can include, or ideas about materials you may produce yourself. You can find them under the heading Teaching and Learning Materials, and also in the Didactic Pool. Teachers for the visually impaired are usually skilled when it comes to producing their own materials and adapting the ideas of

colleagues. So, let your creativity blossom – and when you have done something that works with your class, take a picture and send it to us with an explanation in which connections you have used it.

Ongoing work

One important part of our work is to search for homepages on different school subjects. We hope to get the homepages of universities having education of the visually impaired on their programs. Many are there already. Schools and resource centres sharing information about their inclusive practices are also a priority for us. We hope that the links to pages concerning various types of visual impairment and their implications will be of help to you. In many countries there is a need for knowledge regarding assistive technology. These links we consider to be very important.

All this information is not useful if people do not know we exist, so PR activities are high on our priority list. On every occasion when we meet people involved in the education of visually impaired children and students we inform them about ISaR. The response has been very positive.

We do, of course, use ISaR ourselves wherever we lecture. It has many advantages. The students can study our Reader beforehand, we do not have to carry hundreds of copies around the world, and we know that all the materials we need and want to use are available. We have also asked our students to provide us with materials for ISaR and been able to use the best ones. We are ready to improve ISaR International all the time. We translate texts from several languages into English and inform our colleagues at the universities about the possibilities ISaR has for their students.

Partners

Through our work abroad we have been able to spread the word about ISaR International – but our target group is the entire international community of children and youth with visual impairments, and their teachers, parents, assistants, and professionals. Personally we cannot reach all of you. We can spread the information about ISaR International's offerings through the contact net of ICEVI, meeting people from the international schools / organizations like Perkins, RNIB etc., visiting foreign countries, and participating in conferences. We are utterly grateful for the people we have met who have been enthusiastic and supportive of ISaR International.

Acknowledgment

ICEVI has shown a great interest in ISaR International. Herman Gresnigt, former ICEVI European president, gave us a lot of support when the project started. Later, Hans Welling, the present president, publicized ISaR in the ICEVI European Newsletter. ICEVI World President Lord Colin Low, ICEVI CEO Dr M.N.G. Mani, and Dr Aubrey Webson, The Educator editor and Director of Perkins International have made it possible to spread the word about ISaR International. Our heartfelt thanks to all of you.

We cannot refrain from thanking two other persons, Dr Lea Hyvärinen and Dr Gordon Dutton. They have both provided us with really first class and useful materials to be downloaded.

Let us meet on the net! Together we achieve more!

Background facts:

German ISaR www.isar.de

ISaR International www.isar-international.com

Initiated by: Technical University Dortmund, Faculty of Rehabilitation Sciences, Rehabilitation and Pedagogy for Blindness and Low Vision

Funded by: Heidehofstiftung GmbH, Stuttgart

Technical solutions: www.meap.de

Contact persons: emmy.csocsan@uni-dortmund.de ; solveig.sjostedt@netlife.fi

6th Joint IDP Forum and ICEVI Educational Conference

ICEVI Africa region is proposing to hold its regional educational conference in conjunction with the 6th IDP/ Africa Forum to be held in Uganda in October 2014. The Africa or IDP forum can simply be explained as a platform for organizations, institutions and individuals in the blindness sector for sharing ideas, knowledge and experiences on related social, economic and political issues.

The IDP is usually attended by about 400-500 participants and ICEVI's education conference along with this forum will help in creating awareness about the Global Campaign on Education for All Children with Visual Impairment (EFA-VI) implemented by ICEVI acting in partnership with the World Blind Union (WBU). More information on the theme of the conference and session details will be posted on ICEVI website www.icevi.org.

Music Education for School Aged Students Who Are Blind or Partially Sighted in England: An Overview for 2013

James Risdon and Sally-Anne Zimmerman, RNIB, UK

This brief case study is followed by some thoughts on the application of technology to enhance learning and enjoyment of music.

Current Government Policy

Music is one of the Foundation Subjects in the National Curriculum for England for pupils aged 5 to 14. There are programmes of study and eight levels of attainment. However, a newly proposed and much streamlined National Curriculum has been published for public consultation. Ever fewer schools are required to teach the National Curriculum as more convert to Academies or Free Schools. Music has the lowest take-up in schools post age 14, despite the high involvement of most teenagers in listening to music.

In November 2011, the Department for Education published A National Plan for Music (DFE-00086-2011). The Plan states that all children are entitled to music instrument tuition and should be involved with singing on a regular basis. Under this Plan, all state schools are linked to a local music hub which augments the class provision for musical activity. Outside music agencies can join the hubs and contribute to the offer of music making. The work of music hubs is monitored not by the Department for Education but by the Arts Council for England, reporting to the Department of Culture, Media and Sport.

Many Opportunities

Most pupils in the UK with serious visual impairments are educated in mainstream schools, though an increasing number attend special schools for pupils with severe learning difficulties or autism. In theory, they have all the musical opportunities of other students. In practice, however, the important and time-consuming additional curricular work, such as braille or mobility, may take priority over musical activity. Funded transport to and from school may also limit involvement in noncompulsory music groups out of core school hours.

Alongside this state provision there are a plethora of other opportunities for musical learning. Private music groups for mothers and babies and toddlers thrive, and where social circumstances allow, many children with visual impairments join these. Many parents consider music therapy, in groups and one-to-one sessions, as an educational rather than therapeutic activity. Children who are blind or partially sighted, with or without additional disabilities, participate in them. One-to-one private instrumental tuition is popular, either paid for by parents or by the Amber Trust, a prominent music charity

(www.ambertrust.org). Local music groups for families with children with disabilities are also well populated by young musicians who are blind or partially sighted.

Some musical organisations run one-off activities specifically for blind and partially sighted young musicians. RNIB's Music Advisory Service offers such events, for example, with the Royal Opera House, the Handel House Museum and the Wigmore Hall, amongst others (www.rnib.org.uk/musicevents).

In England, there are some elite private schools for the arts. They have always had a few pupils who are blind or partially sighted, who frequently go on to study at the major Conservatoires. At the other end of the spectrum, there are many community music projects designed for young people, particularly at-risk teenagers. Mentors share their knowledge and expertise in DJing, recording techniques, etc. There are also many local music groups to join, from church choirs to samba bands, from folk groups to djembe drumming circles.

Strengths and Challenges

Most of the general music lessons for all, and the voluntary singing in schools, is learnt by ear. This suits many blind and partially sighted students who find it easy to memorise lyrics, melodies, and instructions. Indeed, many of the musical styles presented in these areas are aural traditions, from gospel to gamelan, jazz to Japanese drumming (Taiko).

Much musical performance, however, includes visual elements such as singing with actions or watching the gestures of a director. It is usual for a primary or special school choir to sign some verses of songs in British Sign

Language or Makaton. Dance routines are also often incorporated. The need to “look good” for the YouTube recording and the sea of parents’ iPads at the live performances is in vogue.

Music in secondary school, for pupils aged 11 to 14, often revolves around group composition and arrangement, independent of a teacher. This can provide structured social opportunities, but for students not picking up visual cues, there are also non-musical challenges. Other secondary activities often involve using music technology or computers with instrumental tuition packages. These technologies are rarely accessible to blind students and are often difficult for partially sighted students to use. “Musical Futures” (www.musicalfutures.org/resources) is currently the most popular secondary scheme in England. It enables students to upload their work on Numu (www.numu.org.uk/) purely in sound, so any extra musical issues, such as a visible disability, is eliminated.

More traditional courses of musical study continue to emphasise the use of music notation. Students with visual impairment frequently lack the required musical literacy and fluency because they have not been taught Modified Stave Notation or braille music notation. As a result, even if the materials were available, students do not have the skills to use them. This limitation also applies to classical advanced ensembles, such as chamber choirs and orchestra, for which students volunteer.

Whilst there are plenty of role models of blind and partially sighted musicians in all kinds of genres, there are very few blind or partially sighted music teachers, especially in schools.

Overall

There are ever-increasing opportunities for music making in England and young people who are blind or partially sighted are initially made welcome in many of these. These students work with sound as the first, not the second, medium. For them to succeed requires the sighted majority to unpick what is normally learnt through vision and turn to more musical approaches!

MUSIC EDUCATION FOR VI STUDENTS IN THE UK AND TECHNOLOGY

Technology Solving Problems

For VI musicians within the Western Classical tradition, access to music notation for study and performance remains perhaps the biggest challenge. The heavy reliance on the ability to sight read (simultaneous reading of music and playing) starts from an early age, and is a feature of classical music education through to Conservatoire. For most visually impaired students the alternative is a period of concentrated learning and memorisation in advance. While musically this can be satisfying, and lead to fluent performances, it demands a great deal of time. The pressures of the National Curriculum, as well as the need to learn literary braille, participate in mobility and independence training, or simply to catch up, mean this is beyond all but the most dedicated and talented.

Before these considerations, however, there is the fundamental issue of producing resources in the student's preferred format (braille music, enlarged or modified print notation, audio). Traditionally, braille music has been produced by national organisations for the blind, often cheaply but with impractically long turn-around times. Until the advent of advanced music notation programs, any kind

of modification to a print score involved either photo enlarging (with usually unsatisfactory results), or creating audio recordings. These are only as good as the person making them. Interpretation, nuances and inaccuracies would be passed on to the VI student.

How Can Technology Help?

For braille music, automated translation programs were the first important development since Louis Braille invented the code. These are still commercially available and offer braille music at the click of a mouse from a print source file. Despite the complexities involved, it is at the stage of creating the source file that most problems with automated braille music transcription occur. Historically there have been dozens of music notation packages, each producing scores in their own, mutually incompatible format. Music scanning is not currently sophisticated enough to offer sufficiently reliable results, so an electronic score is still required, relying on a sighted music reader with access to suitable software.

While braille music is codified and relatively standard internationally, print music varies considerably according to national conventions and publisher house styles. Music notation packages have led to greater standardisation for everyone, but importantly for partially sighted musicians, their flexibility has enabled modified print scores to be produced with almost limitless customisation.

Modified Stave Notation (MSN) was developed by RNIB in the 1990s and has been adopted by all the major academic and music exam boards in the UK since. Each element of the score can be altered in size, appearance and placing to make scores more consistent and clearer. The great difference here is that

mainstream software can be used to produce an accessible music score with little training. Indeed, partially sighted musicians can produce their own score once they have established their own preferences. Work is currently being undertaken in the UK to enable MSN to be produced using low-cost and no-cost notation software.

The same music notation package can usually produce an audio file in midi format. This is a digital rendering of the score in sound, and can be a useful learning tool alongside, or even instead of, the music score. Audio files can help the memorisation process and provide a useful practice tool once a piece has been learnt.

For education professionals, the concept of using a source file to create accessible versions in different formats has been well-established for literary materials. The same is now tantalisingly close for music production with the use of MusicXML. MusicXML is becoming the industry standard file interchange format and is now supported by many notation packages, both commercial and free. There are already at least two tools, both providing free access online, which almost instantaneously convert MusicXML into braille music. This allows, for example, a score produced in class using Sibelius to be exported as MusicXML, translated into braille music and embossed during the lesson.

As well as near instant access, MusicXML offers the prospect of producing multimedia scores. A European Project is building on the results of previous research projects to create an automated MusicXML-to-braille translator and braille music software. This allows a piece to be read in braille, heard in midi and described in words by a screen reader. The

project has paved the way for concepts standardised by DAISY to be incorporated, such as hiding parts, hiding elements (such as dynamics), altering the layout of a score (from full score to individual parts or bar over bar to section by section), and setting bookmarks.

The possible applications go beyond learning and memorising music to developing music literacy and measuring progress.

Changes in Music Technology

A Digital Audio Work Station might include tools for recording, editing, and sequencing multi-track pieces using midi and/or acoustic instruments. The gradual shift from hardware to software, the three-dimensional controls to the two-dimensional computer screen, often heavily reliant on a graphical user interface, has meant this area of music making and creating has become increasingly challenging for VI musicians. What access currently exists is almost entirely as a result of commercial companies or inspired individuals and online communities of users and developers creating overlay solutions such as scripts for screen readers, rather than tools which are designed with accessibility in mind from the outset.

Notable examples of accessible solutions include an accessible midi editor and scripts for Reaper and Sonar, all freely available, designed by and for VI musicians. Commercial companies add value by including enhanced documentation, support and training both online and in person, template files and online tutorials. In the UK, funding is available to organisations and individuals wishing to develop solutions in the area of accessible music technology, a recent example being the development of the Mackie display reader for virtual control surfaces.

While there are competent users of music technology who achieve musical results, there are many others who rely heavily on sighted assistance. There are implications for this for students working in groups in the classroom, completing independent course work and undertaking further study. The school may use technology that is inaccessible to access technology. In this case, educators must decide how to evaluate a student's performance.

If the assignment is task-oriented, equivalent software may be used. If the goal is an understanding of the process, the VI student can take on a more director-like role within a group, making suggestions based on what they hear rather than what is on screen.

As Music XML becomes embedded in to mainstream notation applications and music publishers make greater use of this flexible language, it is probable that we will move closer to achieving affordable access to notation for all. The structural concepts inherent in the DAISY standard could be applied to notation, noting the division of music in to logical elements such as phrases and bars which could be navigated to give musicians greater control over their music learning. The possible synchronisation of audio and other representations of music notation is tantalisingly close and it is imperative that we now develop tools and techniques to make this a reality.

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Braille for the World: Duxbury Systems' DBT Supports Many Languages

Neal Kuniansky & David Holladay, Duxbury Systems, Inc., USA

Editor's note: *The Educator generally excludes articles about specific commercial products. However, Duxbury Systems has made a commitment to supporting access to braille in more than 130 languages, and we consider this information vitally important to professionals who work with braille readers.*

Duxbury Systems, Inc. is a Massachusetts-based braille software producer. DBT is the company's braille translation software, which is used around the world. Duxbury Systems strives to support braille in all parts of the world, including nations that have not directly solicited our help.

About six years ago, DBT increased its focus on language support. We now handle primary and secondary languages for virtually all of North and South America, Europe, and Asia, and we support the languages of many other nations across the globe as well. With the 2011 release of DBT version 11.1, the list now numbers about 135 separate languages.

Braille Production in Different Languages

Here are a few words of background for those who may not be familiar with braille production software. It lets you import files from various file types, convert the text into braille, and then send the braille material to a braille embosser to be produced in paper (or electronic) braille. The set-up requires a computer, a braille embosser, the necessary cabling, a word processor, and braille production software, such as Duxbury DBT.

When one launches Duxbury DBT, one can accept a default language selected during installation, or explore a long menu list of Templates. In general, there is one DBT pre-defined Template per language, so that selecting a Template is just picking a language. After importing a file from another application, pressing the command Control-T translates into braille, using the rules for braille for the specified language. A sighted user can review the material in braille on the screen. A user who is blind (or deafblind or visually impaired) can use access technology to review the material.

A key point is that every copy of Duxbury DBT is the same—each can produce braille for 135 languages. Every purchaser has access to all of these languages. Recently, Duxbury Systems got an e-mail of thanks from a blind Cambodian student who was attending an American college. She was delighted that her school could produce Khmer text for her in proper Khmer braille. There was no need to purchase or download a “Cambodian option”. All the instructions for producing Cambodian braille are there for all users.

Localisation

Duxbury Systems has worked with a number of volunteers around the world to localise the product. The localisation allows all the prompts and user interface to be in a language other than English. At this time, all of the localisations are for European and North American users (plus Korean and Brazilian Portuguese). We welcome contact from enthusiastic users who wish to help us offer the benefits of the software to those who do not speak English.

Real World Example of Getting Started:

Uzbekistan

An NGO wants to set up a computerised braille production facility in Uzbekistan. For hardware they need a power source, a computer, an embosser, and all necessary cabling. An internet connection is useful to obtain materials, ask questions, and obtain software updates. For software, they need a braille translator such as Duxbury DBT. They also need a word processor application such as Microsoft Word or Open Office. Open Office has the advantage that it is available at no cost to most end-users.

Bangladesh and the non-Unicode font

In 2012, a braille user in Bangladesh informed us that, while we supported Bengali braille as used in India, we were not supporting the version used in Bangladesh. A further complication was the widespread use of a non-Unicode font in Bangladeshi word processing files. While importing files using Unicode fonts from Microsoft Word or Open Office is fairly easy, the process can be very tricky when working with a non-Unicode font. Duxbury Systems has done only a few times.

Unicode fonts, which are nearly universal, tend to string logical characters in spoken order. Because braille character order generally follows spoken order as well, the conversion from Unicode fonts to braille is generally smooth and simple. The Bengali font was focused on written order and appearance. Some individual characters were just slivers of shapes meant to give meaning only when combined with other characters. Despite language and communication difficulties, Duxbury was able to work out the font conversion for the Bangladeshi version of Bengali braille. This experience taught us to adjust the translator so that “unknown to Duxbury” combinations display clearly. This makes it much easier for local experts to give us feedback and advice.

India

For India, we support all languages using the ten major script systems. Since people identify by language name rather than by script name, the Template menu in DBT lists 45 different languages of India. As long as you choose a related language, DBT actually supports over 300 Indian languages. Please visit the Duxbury Systems website to see the current list of supported languages in India and elsewhere.

Bhutan

In 2007, during the early stages of our effort to support more Asian languages, Duxbury Systems learned that there was urgent need for support for Dzongkha, the language of Bhutan. We received a PDF file of the braille chart, and started to work on it. Duxbury Systems worked closely with staff from the Ministry of Education in Bhutan. From our perspective, the most unusual part of the

project was that we were required to sign a statement that we were not charging for the development, that Duxbury Systems would only be paid for the copies of the software at the standard price. We readily signed, since this was our intention from the beginning.

In 2009, we received a new PDF of a Dzongkha braille chart, requiring serious re-work on our part. One of the aspects that made the additional work satisfying is that it was clear that the new chart was based on the extensive experience gained from creation of the prior system. Duxbury Systems is proud to support the Bhutan Braille System, revised in 2009.

Laos and Tibet

In Laos and Tibet, NGO organisations had set up braille production. The local workers were using Duxbury DBT, and were disappointed with the results. The problem was incomplete information about the braille codes at Duxbury. We arranged for the local staff to e-mail us Microsoft Word or Open Office files of the source text, with an explanation of what was wrong, and what the correct braille should be. We sent them a corrected table to try, and continued the collaboration until we got it right.

Vietnamese

Some years ago, Duxbury Systems learned that persons in Vietnam were having difficulty producing braille. In 1993, William Jolley and Rhonda Pryor of the National Federation of Blind Citizens of Australia sent us braille instructions and samples, as well as a list of contacts. As a result of this work, support for Vietnamese has been built into DBT for Windows since its earliest version. Contact

with Vietnam has been on-going, including a trip to Vietnam by Duxbury Systems owner Joe Sullivan, which was arranged by Larry Campbell of ICEVI.

Support for a New Language

Duxbury Systems does not charge for developing translation software. When we get a request to support a new language, we always say yes if there are more than four million speakers and if it is one of a nation's primary languages. If the number of speakers is not that high, or if the language is just one of 14 in a nation with a complex language heritage, it is a hard decision. Nonetheless, we welcome all requests, especially when it concerns a braille code about which we have little or no information.

The exciting part of this is that the relationship is straightforward. The trail blazer who helps Duxbury to add a new language translation table does not need to begin by raising funds. Sometimes progress is slow in the beginning, but we always get good results in the end. The improvements are placed in the next version or service release produced by Duxbury Systems, letting all users have access to the new or newly improved language support.

To contact Duxbury about a new language, e-mail languages@duxsys.com. To add translation tables for a new language, we need to be able to communicate with someone in English. We explain the way we like to see reports, and then get to work. In almost all cases, we offer a free license to the local contact. As the project continues, the burden falls more and more on the local contact, since it takes more and more braille to be produced and read until an error is

found. Some languages can be supported fully in a few weeks. Some languages (such as contracted Tagalog or Korean) may take about a year.

More Magic: Braille into Print

For nearly all of its languages, Duxbury now supports going from braille to print as well as from print to braille. Why is this important? A student can enter braille into an electronic device using a braille keyboard. After the material is transferred to a computer, DBT can translate the braille file into inkprint. The inkprint can be brought into Microsoft Word or Open Office. Thus a blind student can write in braille and print out text in Korean (and many other languages).

The list of languages that are supported for braille-to-print translation is not quite as long as the list of those that are supported for print-to-braille translation. And there are limitations. For example, DBT can convert Mandarin braille into Pinyin (Romanised Mandarin), but cannot produce an inkprint file with Han characters (Chinese characters).

A Word about Mathematics Notation

The production of braille mathematics is a very technical subject. Duxbury Systems offers four different mathematical translators:

- Nemeth Code (American)
- British braille
- Unified English Braille
- French Braille
- In process: Marburg Braille

You can specify that a particular math system be used with any of the translators. We are aware of many additional braille systems for math and science notation. We hope to eventually add to this list.

The methods of entering mathematics into a computer so that Duxbury DBT can understand it are well described on our website, so we will spare the reader from the details. Duxbury Systems is motivated to help improve braille production of mathematical texts. Several of our staff have detailed knowledge of producing mathematical and science notation in braille.

Accessibility

Accessibility has always been important to Duxbury Systems. Two of the full-time staff are blind and need to access DBT and other products of Duxbury Systems. The fact that Duxbury DBT is accessible means that many blind persons have been employed as braille transcribers or in related professions in braille production. We are aware of a number of blind persons who have been employed for many years due to their ability to use Duxbury DBT.

The Emergency Test

At various times, we are challenged by someone who needs to be shown that Duxbury DBT works for a specific language right now. For instance, we find ourselves explaining to someone in Northern India how to produce Pakistani Urdu (as opposed to Indian Urdu). In a short time, we need to explain downloading the software, getting it working, cabling and configuring the software for the user's embosser, and then working with the specified language and testing the braille. And of course, this all needs to happen very quickly, since the dealer is naturally afraid of missing a sale.

Our solution has been to create a special web page for just such emergencies. If you visit

<http://www.duxburysystems.com/samples.htm>
you learn about all of these issues. We offer sample files in 60 languages to help someone see what they can do with Duxbury DBT.

We invite readers of this article to go to this page so they can run some tests for themselves, and see what Duxbury DBT can do. If you use our demo software, the braille will have one consonant sprinkled in the braille many times. With a fully licensed copy, the braille will be as perfect as our developers can make it. Be aware that some of the development work mentioned in this article will be available later in 2013. Contact us at languages@duxsys.com if you encounter any difficulties in your test of Duxbury DBT.

A Final Word

We offer assistance to our users in a number of ways:

Support for a surprisingly large list of languages;

Support for all known braille embossers on the market;

Support for Microsoft Word and Open Office;

A commitment to accessibility for users who are blind, deafblind, or have low-vision;

Software localisation for a dozen languages. Please e-mail us at languages@duxsys.com if you wish to volunteer to localise for your language.

A website loaded with useful information; Excellent tech support. If we don't speak your language, we run questions through Google translate and answer the best we can.

Skilled collaboration with local experts to help us improve support for languages in Duxbury DBT.

We strive to serve the needs of persons all over the world who need additional support and assistance to produce braille.

Founded in 1975, Duxbury Systems is a family owned company located in Massachusetts USA.

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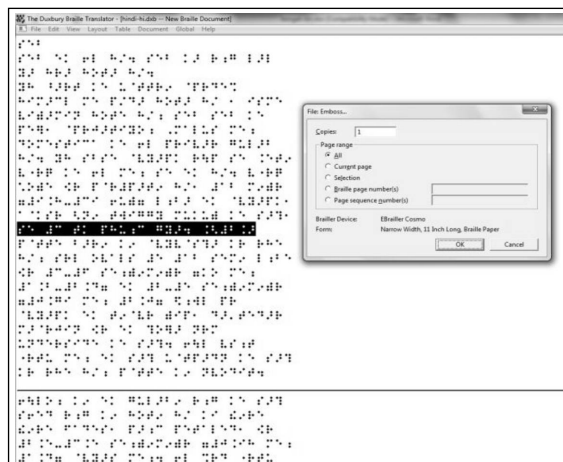
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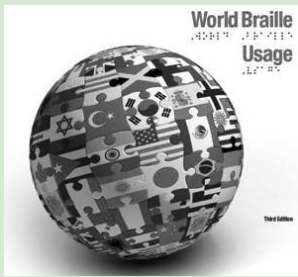
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Nations United by Braille: New Edition of World Braille Usage

Ellen Hall, Braille Literacy Manager, Perkins International, USA

The 2013 edition of *World Braille Usage* captures a fresh perspective on the global evolution of braille. One hundred and forty-two countries and 133 languages are represented in this new edition that also contains, for the first time, links to electronic media. This article traces the development of *World Braille Usage* and discusses the impact this book has had on the universal spread of braille literacy since first being published by UNESCO and the World Braille Council sixty years ago.

What is World Braille Usage?

It is doubtful that French school boy, Louis Braille, could have imagined how the code that bears his name would one day become a global communication tool. After all, it took fifty-five years for braille just to reach Portugal from France. Yet today, in almost every nation on earth, people living with blindness use braille to get access to information and literature in almost any language.

This is due to two factors: the formation of a phonetic alphabet that simplifies the transcription of new languages into braille, and the global collaboration of braille users that resulted in the first edition of *World Braille Usage*. In this article we will discuss both of these developments.

Beginnings of Phonetic Braille

Most people easily understand how braille can be transcribed into languages that use Roman letters, like French or English. However, many

are mystified by the idea that a language such as Japanese can be transcribed into braille. Yet, as early as the 1920s, diverse phonetic systems to translate new languages into braille were emerging in India.



In 1923, Parmanand Mewaram Advani, principal of the School for the Blind in Karachi, presented a paper to the Central Advisory Board of Education in Bombay

(Mumbai). In “A Uniform Braille Code for Indian Languages” (Advani, 1922), he recommended that a standardised braille code be developed, with the same signs representing the same phonetic sounds in the many different languages in India.

In 1950, United Nations Educational, Scientific and Cultural Organization (UNESCO) invited Mr. Advani to present his paper at a conference in Paris. UNESCO, created at the end of World War II to promote a culture of peace and moral solidarity of mankind, saw how phoneticisation of braille could increase literacy and independence.

Thirty-seven years after his proposal, Advani’s vision for a unified phonetic braille system had gained adherents all over the world. Many agreed when he stated that, “a unified phonetic braille code would bring the world of the blind closer in this Jet Age if these 63 signs have the same phonetic connotation in all languages of the world” (Advani).

One year later, UNESCO began a collaboration with the newly formed World Braille Council and its first president, New Zealander Sir Clutha Mackenzie. Together, the organisations worked to develop a unified system and standardised practices to transcribe many of the world's languages into braille.

The result of this undertaking was the first edition of *World Braille Usage* (Mackenzie, 1953). Although virtually unknown outside of the blindness community, this publication is a unique type of founding document. It is credited with outlining the principles and practices for bringing uniformity to an international, phonetic system for translating new languages into braille. In fact, before the first edition of *World Braille Usage* was published in 1953, it is fair to argue that the true genius of braille was far from being fully realised.

Braille Becomes a Worldwide System



If the first edition of *World Braille Usage* was created for the Jet Age, the second was created for the Information Age. The U.S. National Library Service for the Blind and Physically Handicapped (NLS), with encouragement from

UNESCO, embraced the challenge of developing a second edition of *World Braille Usage*, published in 1990.

The contributors created the content for the second edition without use of the internet. Surveys on braille usage were circulated by mail, almost unimaginable today. One must remain grateful to the staff of the NLS and the hundreds of braille-involved people around the world, all of whom so generously participated in this international effort.

Fondly referred to as “the purple book” due to its vibrant purple cover, the 1990 edition came on the scene at an opportune time for several reasons. Considerably larger than the first edition, it was a remarkable achievement. The second edition provided in-depth information on the use of braille in 85 different countries and included copies of braille alphabets and punctuation codes for 97 languages. It listed the titles of braille codebooks that had emerged around the world since the first edition in 1953. The emergence of codes for mathematics, science, music, and computer notation confirmed that braille was evolving with the times.

Because the United Nations General Assembly declared 1990 International Literacy Year, it was an auspicious year to publish the second edition of *World Braille Usage*. The book and the work for braille literacy was deeply entwined within the larger, global struggle to achieve universal literacy. International Literacy Year was, however, not so much a cause for celebration as it was an urgent call for help.

The financial and social costs of inadequate literacy skills were being examined and quantified in new ways. Poverty, unemployment, poor physical health, poor emotional health, lack of independence, and a lack of capacity to communicate and access knowledge were now, irrefutably, associated with low levels of literacy (Hartley, 1990). These findings set off a flurry of activity around the world, and literacy suddenly was a hot topic.

In response, governments of many nations made funds available for literacy-related activities, the benefits of which are still being realised today. The UNESCO World

Conference, *Education for All*, and subsequent focus on the issue, is but one example. It is no coincidence that during this period, the term “braille literacy” emerged, inexorably linking it to the broader and on-going global literacy crisis in both developing and developed countries (UNESCO, 1990).

Although the 1990 edition of *World Braille Usage* makes few references to information technology, it played a role in helping to usher in a new era of braille producers, software developers, and manufactures of braille devices. Braille translation systems were being explored by IBM as early as the 1960s, and at MIT during the 1970s (Holladay, 2013). In 1975, an early pioneer of braille technology, Duxbury Systems, released the first Duxbury Translator. When the second edition of *World Braille Usage* arrived on the scene in 1990, it was a welcome addition to the emerging, technology-driven, evolution of braille.

Published in a year when there was unprecedented attention focused on the deplorable, social cost of inadequate literacy skills; the second edition of *World Braille Usage* was tangible evidence that braille was a global communication tool. Braille was the key to providing access to the empowerment of literacy to a global community of citizens who were blind and visually impaired citizens.

True to the mission of UNESCO, the second edition embodied the concept of peaceful cooperation and the solidarity of mankind. True to the motto of the NLS, “That All May Read,” the second edition showed that braille usage was continuing to increase, transcending diverse cultures and accommodating to complex languages.

The legacy of the first edition of *World Braille Usage* was to unite nations in the

development of unified systems and practices to translate braille into new languages. The second edition continued that legacy and validated its success. Braille usage had gone global. Indeed, as Dr. Judith Dixon pointed out in her article written for the second edition, “braille is truly a worldwide system” (Dixon, 1990).

World Braille Usage, Third Edition – A Living Document

Literacy is exclusively a human experience, the foundation of language and culture. The cooperation and synergy of hundreds of people who use, teach, or produce braille made this and previous editions of *World Braille Usage* possible. Today, *World Braille Usage* contains copies of the braille codes that empower access to literacy in 133 different languages. More importantly, new technologies offer an unprecedented potential for *World Braille Usage* to truly be a living, online document, able to be amended and added to periodically, and accessible in a variety of formats anywhere in the world.

Finding the financial resources necessary to make literacy available to any marginalised population is, however, problematic. This global reference text on braille has, on an average, been updated only once every thirty years. Plans to publish a third edition were long in the making, driven by immense geo-political changes, innovative technologies, the impending adoption of Unified English Braille by the United States, and other critical factors that had emerged in the twenty-three years since the 1990 edition was published (Schnackenberg & Dixon, 2010).

In the fall of 2011, Perkins, the National Library Service for the Blind and Physically Handicapped (NLS), and the International

Council on English Braille (ICEB), created a partnership. The agencies agreed to share the cost of publishing a new edition. In addition, Perkins devoted part of a grant, donated by William Schawbel of the Schawbel Corporation. The grant, dedicated to the support braille literacy projects, funded a braille literacy manager and author to coordinate the project.

Development of the Third Edition

The methodology used to create the third edition paralleled the process used by the NLS twenty-three years earlier. While the 1990 edition took years to complete, email and related digital technologies allowed third edition to be complete and published in just eighteen months.

The project partners developed a survey tool for collecting data; a short questionnaire and cover letter. To a large extent it incorporated the same questions included in the 1990 survey, with one notable exception. From the beginning, a goal of the project was to specifically request braille codes for indigenous and/or mother-tongue languages.

The questionnaire is summarised below:

Name of the country;

Name of the individual or agency filling out the survey;

List all of the language(s) (national and indigenous) transcribed into braille, in order from most frequently used to least frequently used;

Identify if braille is contracted (grade 2) or un-contracted (grade 1) for each of the languages listed;

Name of the organisation, or agency responsible for standardising the braille codes;

If braille codes are standardised by an authority or agency outside of your country, provide the name of the responsible authority or agency;

List the name, and date of revision, for all the braille codebooks in use for: literary, mathematics, science, computer, music, and all other codes, for each of languages transcribed into braille;

Request for a copy of the braille alphabet and punctuation codes for each of the languages transcribed into braille.

The sampling frame for the project were representatives from over 500 braille or blind-related organisations, located in 197 countries around the world. We found them through a wide range of sources, including membership lists from the World Blind Union (WBU), the International Council on the Education of the Visually Impaired (ICEVI), and numerous individuals at schools and libraries for the blind, universities, and elsewhere. In all, over 3,000 emails served to collect the data used in this edition of *World Braille Usage*.

The global level of support provided by the organisations participating in this project was an inspiration. Both the WBU and ICEVI were extremely helpful in getting the word out to their members. One of the most outstanding examples of support came from the Latin American Blind Union (ULAC). In an amazing act of kindness and demonstration of organisational strength, ULAC assumed responsibility for completing and returning the questionnaires for 20 of their member countries in Latin America.

Staff members at Duxbury Systems were very supportive in assisting the editor, sharing resources, and offering consultative advice on

a broad spectrum of issues. Like the first two edition, this new edition of *World Braille Usage* will ideally broaden not only the amount of information available on the global use of braille, but also its accessibility to braille transcribers, educators, producers, software developers, and manufactures of braille devices in many nations around the world.

The project was not without challenges. Receiving responses to the questionnaire from representatives in the 197 countries recognised by the United Nations was certainly one of them. For example, 24 percent of the countries listed in the 1990 text did not respond to the questionnaire. As a result, their braille codes appear as reprints from the previous edition. The necessity of having to transmit questionnaires, and subsequent follow up questions, in a wide variety of languages was also a challenge. Fortunately, Google Translate proved to be almost magical in this regard, making communication possible and frequently humorous.

It is also interesting to note that the most vexing question on the questionnaire was the one asking for the titles of the braille codebooks used for literary, mathematics, science, computer, and/or music notation. It was not uncommon for representatives in a country to send a copy of the braille alphabet and punctuation code for a language; but to remain unable to provide the name of a braille codebook associated with its use. Another interesting observation was the noticeable lack of mathematics and science notation in many of the developing countries. However, it is encouraging that the Braille Music Code, which was internationally standardised in 1990, has gained acceptance in numerous countries around the world.

The presence of a braille authority or agency responsible for monitoring the standardisation of braille within a country made a significant difference to the quality of information received in response to the *World Braille Usage* questionnaires. Although there is no definitive, operational definition of what constitutes a braille authority, it is estimated that 28 percent of the 142 countries listed in the new edition have established a designated authority or agency, to oversee the uniformity of national braille standards used within their country.

The quest to collect indigenous and mother tongue languages transcribed into braille proved to be both heartening and disappointing. South Africa is one of the success stories. In addition to English and Afrikaans, the new edition now includes braille alphabets for eight of the most commonly used tribal languages. In addition, several countries in Latin America submitted braille codes for indigenous languages for the first time.

In the United States, although a number of individuals confirmed the existence of a braille alphabet for Navajo, a copy of it was never discovered during the data collection process. At one point it seemed that not a single braille code for an American, indigenous language would appear in the new text. Fortunately, both the Hawaiian braille code and the Alaskan Iñupiaq braille code arrived during the last few days of the project, and they can be found in the new edition.

In a broader context, any reflections on the development of this edition *World Braille Usage* must include some observations regarding its historical context. Few in the

blindness community could ignore the impact of the seminal report published by the National Federation of the Blind, *The Braille Literacy Crisis in America: Facing the Truth, Reversing the Trend, Empowering the Blind*. This publication states that 90 percent of students in the United States who are blind are not taught braille (Jernigan Institute, 2009).

More recently, a respected leader of the blind community, Kevin Carey, commented that braille is, “on the verge of a global catastrophe as great as that which the music industry faced in the late 1990s, as great as that which now faces books, magazines, and newspapers” (Carey, 2012). These perspectives must come as sobering reminders that many challenges remain ahead and the braille literacy crisis recognised in 1990 still remains unresolved.

Of all the issues impacting the future of braille, it is the opinion of the author that a profound lack of research is one of the most pressing. In 2006, Kay Ferrell, a well-known authority on braille and braille research, conducted a meta-analysis with the National Center of Low Incidence. She analysed forty years of research involving children with visual disabilities, using research standards set out by the U.S. government’s *What Works Clearing House*. The study found only 136 articles involving children with no vision (those most likely to use braille). Of those 136 articles, only 16 research studies met the criteria of scientifically based research (Ferrell, 2006). Thus, there remains a critical need for a greater investment in scientific research into the state of braille today, both in the United States and globally.

Speculation on the future of braille primarily focuses on the future of literacy for the global population of 39 million people who are blind, and a portion of the 246 million people who have low vision (World Health Organization, 2012). Braille is a global communication tool, a medium for learning, teaching, reading, writing, recording, and retrieving information--the nexus to literacy for a marginalised population. The new edition represents a 68 percent increase in content over the previous edition. It is tangible evidence of the robust nature of braille and, perhaps more telling, the strong, determined will of the people who use braille.

The third edition of *World Braille Usage* arguably contains the most contemporary and comprehensive collection of the braille codes available in the world today. The cover of the new edition features a colourful globe of the world covered with national flags from nations around the world. All of the flags are made to look like interlocking pieces of a puzzle, symbolic of the legacy of nations united by braille.

Unlike previous editions, there is an unprecedented opportunity for this edition to truly be an accessible, living, online document. The partners hope that it will eventually represent every nation on earth and every language transcribed into braille.

Dr. Aubrey Webson, Director of Perkins International, dedicated the third edition of *World Braille Usage* to “the millions of braille users, teachers, producers, and organisations, past and present, who tirelessly advance equal and global access to literacy and greater independence for persons who are blind, through the use of braille” (p.x).

Note : Presently a pdf file version of World Braille Usage, Third Edition, can be found on the Perkins website: www.perkins.org/worldbraille. Perkins is working to identify funding to produce an electronic braille (brf file) for this publication that will further enhance its usability within the braille-reading community. It is hoped that this version will be available by the end of 2013.

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ICEVI-DbI 2nd JOINT ASIAN CONFERENCE

"TOWARDS AN INCLUSIVE TOMORROW"

5-7 April, 2013 at Ahmedabad, India



The 2nd Joint Asian Conference of ICEVI and Deaf Blind International (DbI) was hosted by the Blind People's Association (India) and Sense International India (SII) in Ahmedabad, India on 5-7 April 2013. It was attended by over 400 participants from 19 countries and the deliberations were productive. The Conference theme was **"Towards an Inclusive Tomorrow"** and the focus areas were education, technology, and advocacy. The Programme Scientific Committee was chaired by Mrs. Vimal Thawani, Chair, BPA-India and there were 130 Speakers in the Plenary and Concurrent sessions. The Conference started with people with visual impairment and deafblindness speaking about their aspirations and dreams. The participants included officials from Governments in the region, international non-governmental organizations, professionals from universities, teachers, parents, persons with disabilities, voluntary organisations, social workers and general education institutions.

The conference was inaugurated by Mrs. Stuti Kacker, Secretary, Department of Disability Affairs, Ministry of Social Justice and Empowerment, Government of India. Mrs. Gillian Morbey, President, DbI and MNG Mani, CEO, ICEVI welcomed the participants on behalf of DbI and ICEVI. ICEVI and DbI are grateful to Dr. Bhushan Punani, Regional Chairperson, ICEVI West Asia Region and Mrs. Nandini Rawal, Treasurer, ICEVI, both representing the Blind People's Association and to Mr. Akhil Paul, Director (SII) who hosted the event in a grand manner.



Higher Education Meeting in Hanoi

ICEVI, in collaboration with the Nippon Foundation has been conducting higher education programme for students with visual impairment in Cambodia, Indonesia, Philippines and Vietnam. The Nippon Foundation is happy with the outcomes of the programme and has extended its implementation in 2013-14 with the inclusion of one more additional country, Myanmar. The local partners implementing this programme are Krousar Thmey (Cambodia), Pertuni (Indonesia), Resources for the Blind, Inc. (Philippines), Sao Mai Computer Center for the Blind (Vietnam) and Myanmar National Association of the Blind (Myanmar).

A planning meeting of the partners was organized in Hanoi, Vietnam on 22nd – 23rd April 2013. Each implementing partner formally signed a Memorandum of Understanding with ICEVI to implement the programme in the respective countries. Larry Campbell, President Emeritus, ICEVI who is

also serving as the Project Director of the Higher Education project oriented the partners about the project implementation, documentation of good practices, reporting mechanism etc. The meeting was also attended by Mani, MNG, CEO - ICEVI, Suwimon Udompiriyasak, Regional Chair, ICEVI East Asia region and Yoshimi Horiuchi, who is assisting ICEVI in the coordination of the project especially in Myanmar.



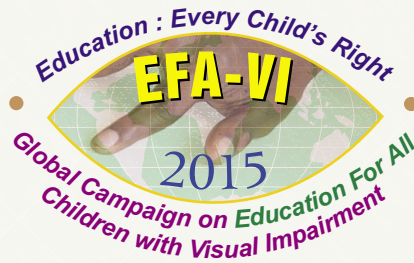
Summary of Global Task Force Meeting Decisions

A meeting of the Global Task Force of the EFA-VI Campaign was held in Madrid on 31st May and 1st June 2013 to discuss the following key points:

- * Accomplishments of EFA-VI, challenges and planned activities
- * Stronger linkages at national level with WBU affiliates
- * Coordinated links with broader disability and education organizations
- * Marketing the campaign

The key recommendations of the meeting are as follows:

1. ICEVI should work with broader alliances on education to make the Global Campaign on Education for All Children with Visual Impairment (EFA-VI) as an integral part of the national education initiatives.
2. ICEVI should treat itself as a facilitator/catalyst for pushing policy implementation at the national level and should not assume the role of direct service provider.
3. ICEVI should also involve itself with the Global Campaign on Education which focuses on disability in 2014.
4. The global level engagement with broader alliances should also aim at supporting the national level work of ICEVI and WBU.
5. After detailed deliberations, members agreed that the name of the campaign may be called as “Education4All” and the tagline being “Access to Learning for Blind and Low Vision Children”. This suggestion should be presented to the Executive Committee of ICEVI for further suggestions and possible adoption.
6. The targets for the EFA-VI Campaign should be measured both quantitatively and qualitatively.
7. It was suggested that an increase of 10-20% year-on-year in coverage of children with visual impairment should be insisted upon and the National Task Forces should work towards this goal.
8. ICEVI and WBU may also consider issuing joint statements on education relevant to the regions and also for countries within the regions.
9. The possibility of organizing joint ICEVI-WBU regional conference may be considered by emulating the successful joint event organized at the global level.



Education For All children with Visual Impairment (EFA-VI) Global Campaign

The Education for All Children with Visual Impairment (EFA-VI) is a Global Campaign and programme of the International Council for Education of People with Visual Impairment (ICEVI) acting in partnership with the World Blind Union (WBU) to ensure that all girls and boys with blindness and low vision enjoy the right to education.

The Campaign, launched on July 16, 2006 is focusing on children in the developing world where currently it is estimated that less than ten-percent have access to education.

Highlights of the Campaign

- + Addresses three key Millennium Development Goals: -achieving universal primary education, -promoting gender equality and -developing global partnerships for development.
- + Stresses the right to education as emphasised in the UN Convention on the Rights of Persons with Disabilities.
- + Works within the framework of the general and special education systems.
- + Focuses on awareness and demand creation for education of children with visual impairment.
- + Stresses on the provision of appropriate support in educational settings.
- + Capacity building of teachers and others, development of literature, production of assistive devices and operational research are important elements.

Indicators of success

- + increased enrolment rates,
- + reduced dropout rates,
- + improved access to support services, and
- + educational achievement for children with visual impairment, on par with non-disabled children.



Global Campaign on Education For All Children with Visual Impairment (EFA-VI)

