# ACCESSING THE AUSTRALIAN NATIONAL CURRICULUM- WHAT SKILLS AND TECHNOLOGY DO BLIND STUDENTS NEED?

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SUPPLEMENT TO THE RESEARCH REPORT –

**'THE EXPERIENCE OF BLIND EDUCATION'** VIDEO LINK ON YOUTUBE– AS SHOWN AT THE SPEVI CONFERENCE – MELBOURNE 14TH JANUARY 2015

# Overview

Australia now has a National Curriculum, yet education systems and supports for blind students in Australian states and territories vary significantly. Our National Curriculum promotes and encourages the use of new technologies to provide access to a broader range of digital curriculum resources (ACARA, 2012b). Teachers now connect students to broader and richer intellectual experiences and opportunities, yet these are often not accessible to the blind student.

For this study, in-depth interviews were conducted with professional blind citizens from Australia and New Zealand. Experiences and opinions were sought about the essential skills they gained from their education that enabled them to become the successful professionals they are today. Analysis of 22 participants' interviews and written contributions revealed there were 4 clear themes of essential skills that were significant to the participants: braille skills, access technology skills, self-advocacy/ social skills and independence skills. From the 4 important education skills to emerge from the contributions, braille skills emerged as the most dominant and most crucial component skill. It was found the participants use a very wide variety of access technologies, though common to all participants was the use of screen reading software and refreshable braille devices being used by all but one of the participants. Current key barriers identified by blind professionals included inaccessible information and false assumptions by the general population about people who are blind.

Also for this study, Australian and New Zealand Vision Education systems were investigated to determine best practices in vision education. These best practices were then correlated to the 4 themes that emerged from the responses from the blind professionals. It was found that immersion courses used in New Zealand, Victoria, South Australia and Western Australia provided targeted and relevant training for blind students. Quality immersion courses supported essential skills development for blind students while supporting regular school's inclusive practices, and better ensured effective collaboration and training for Vision Teachers, Class Teachers, Aides and parents.

The research found that including blind professionals as partners in educational planning and development processes was crucial to ensuring genuine understandings of the educational support requirements for blind students. With the extremely low incidence of blindness in our community, false assumptions about blind citizens predominate. Unfortunately even in our education system, low expectations and prejudice persist.

A survey of NSW Vision Support Teachers identified areas where systems need improvement. To develop state-wide quality programs and information technology systems that support blind students' access to the National Curriculum, better communication and understanding of blind students' skills are required. Partnerships are needed with: blind

community members, education administrators, blind teachers/role models, information technology (IT) administrators, blind technology experts and practicing vision educators.

## The Purpose and Significance of the Research

School Curricula may well be based on a single National Australian Curriculum but the states' systems for supporting blind students vary markedly. Seeking the best educational practices in our region at this time of educational change could ensure the best quality education practice for all blind students throughout Australia.

If, "we must find better ways of ensuring that we meet the additional learning and support needs of every student in every school" (NSW Department of Education and Training, 2012, p.4), now is the time to ensure blind students are genuinely supported.

Given the increasing use of technology in the classroom, how can the student who is blind, and uses braille as their primary medium, have equal access to the new technologies of the new classroom? How do we ensure that blind students gain the skills they need and can stay connected with technology to become life-long learners?

It is known that the unemployment rate for blind citizens is unacceptably high. Vision Australia (2012) note 58% of people who are blind or have low vision are unemployed, and not by their own choice.  If we can recognise the key skills and technology that have enabled blind professionals to be successful in their education and careers, then we can embed this knowledge into quality educational practices and programs for our blind students.

## Limitations of the Research

The travel time restriction for this study was 5 weeks. Due to the time restrictions this research was limited to the educational issues for blind students. This is not to diminish the many challenges and the need for research in other areas of Vision Support Education: low vision students and/ or students who are legally blind, deaf-blind or have multiple disabilities.

Visits to all Australian States and Territories' Government Departments of Education were planned at the outset of the study. However, time restraints and challenges with gaining permissions from Tasmania, and the Australian Capital Territory and only limited time in Queensland meant that thorough information gathering from those jurisdictions was not possible. Through the generosity of the Royal Institute for Deaf and Blind Children (RIDBC) a late scheduled visit for one afternoon was possible as part of the itinerary.

Initially it was also planned to use the same survey for NSW Vision Support Teachers and adapt as a separate survey for each of the jurisdictions. However, the complexities involved with gaining permissions proved too time consuming for this study.

## The Research Problem

Accessing the Australian National Curriculum - what skills and technology do blind students need?

The study aims to examine how we can ensure our students who are blind can best learn the necessary skills, including efficient use of access technology that will enable them to enjoy the benefits of a quality education by fully accessing the curriculum. The Australian National Curriculum acknowledges and promotes the use of new technologies to provide access to a broader range of resources and a more interconnected community of teachers and learners (ACARA, 2012b).  What is needed to ensure our blind students receive the necessary skills and technology to enable them to access the Australian Curriculum and become successful independent life-long learners?

## Definitions and Terms

**Access Technology**: (also known as assistive or adaptive technology) Technology that enables access to information that would not otherwise be independently accessible. Includes access to digital information, including the internet ie: screen readers, refreshable braille devices, audio descriptions for video and television. But would also include low tech devices such as a mobility cane.

**Blind Person**:  A person with a visual loss that means to the extent that they would not be able to access print for reading and writing. Though they may have some light and colour perception and may access both print and braille.

**Blind Professionals**:  Professional blind adults who are successful in gaining employment, tertiary education and /or a career.

**Blind Students:**  A school age student with a visual loss to the extent that  they would not be able to access print for reading and writing. Though they may have some light can colour perception and may access both print and braille.

**Legally Blind:** Individuals with a vision loss that can be measured as visual acuity of 6/60 or less or with 20 degrees of visual fields.  Australian Government Departments use the term 'legally blind' in relation to social security benefits (Vision Australia, 2014).  Note: many individual who are 'legally blind' can access print and are not the subject of this research.

**Immersion Courses:** Intensive courses generally run over a number of that enable blind students to come together to focus on key skill areas. Most often braille and access technology are the focus of the courses

**Inclusion:** The inclusion of student with disability in the regular mainstream schools.

# Methodology: How the Research was Conducted

## Professionals Share their Educational Experience and Advice

Blind Professional Adults from Australia (one from Austria studying in Australia) and New Zealand share their experiences and knowledge to provide clear indications of the important factors leading to their educational success. Eighteen participants answered seven questions as part of an in-depth video interview. Four participants answered questions via email. Interviewees were also invited to add any additional information or ideas they felt were relevant.

All video interviews were transcribed and the interviews and emailed responses were analysed to discover common themes from all participants.

### Research Questions

1. What assistive technology do you use?

2. How do you use this assistive technology to enable you to access digital information to stay connected professionally and personally?

3. What were the most important skills you learnt at school to assist you to be the independent 'life-long learner' you are today? (for example: how important was braille in your education? Other important / necessary skills?)

4. How do you acquire new skills and knowledge about developments in digital information access?

5. What are the challenges and barriers to your independent access of information?

6. What advice would you give blind school students today regarding developing skills?

7. What advice would you give Vision Support Teachers today regarding developing skills for the blind student?

All participants agreed to have their contribution noted and those who participated in the video interviews agreed to have excerpts from the video included in a documentary style video that would be openly available to the public.

**Participants – via email**
Áine Kelly-Costello: University Student – Auckland – New Zealand
Peter Hoskins: Recently Retired Solicitor – Auckland – New Zealand

Andrew Lyons: Computing and Theology Graduate - Dunedin - New Zealand

Garry Stinchcombe: Teacher – Statewide Vision Resource Centre –Victoria- Australia

**Participants – video interview**

Michael Curran:

Co-founder of NV Access – Queensland Australia

Maryanne Diamond:

Senior Advocacy and International Relations Advisor – Vision Australia

Kylie Forth:

Captain of Australia Blind Sailing Team – Western Australia

Lauren Henley:

National Policy Advisor – Blind Citizens Australia

Ryan Honschooten:

Youth Development Officer – Association for the Blind, Western Australia

Graeme Innes AM:

Australian Disability Discrimination Commissioner - Australia

:

William Jolley:

Statistician, Regulator of 000 Emergency Call Service ACMA Australia

Ronald McCallum AO:

Professor Emeritus Law – Sydney University – Australia

Thomas Macmahon:

Access Technology Consultant and Trainer – Queensland - Australia

Bruce Maguire:

Policy and Advocacy Advisor - Vision Australia

Ramona Mandy:

Access Technology Consultant – Humanware - Australia

Jonathan Mosen:

Access Technology Consultant and Media Advisor – New Zealand

Mary Schnackenburg:

Consultant and Company Director – New Zealand

Thomas Seidling:

 International Exchange - Law Student Newcastle University - Austria

Sam Taylor:

Access Technology Consultant – Humanware - Australia

Susan Thompson:

Advocacy Advisor – Vision Australia

Rebecca Wong:
 Arts/ Law Student Sydney University - Australia



David Woodbridge:
Senior Access Technology Consultant – Vision Australia

## Best Educational Practice in our Region for Students who are Blind.

Personal visits were made to the educational jurisdictions listed below. Questions and information regarding the research topic were forwarded in advance of the visits, with the key focus on finding practical best-practice education for blind students. Information was gathered during visits and also from the websites of each jurisdiction.

The 4 themes from the blind professionals (braille skills, access technology skills, self-advocacy/ social skills and independence skills) were then used as headings and educational practices to address these skills were then placed under those headings.

To ensure the accuracy of the information gathered, this information in the heading format was then emailed to each of the 4 key participant jurisdictions for verification and authentication.

**Personal visit were made to the following jurisdictions and coordinated with the support of the head person from that jurisdiction:**

Principal - Blind and Low Vision Education Network New Zealand (BLENNZ) Auckland

Manager - Vision Education Resource Centre – Melbourne

Principal - South Australian School for Vision Impaired – Adelaide

Senior Education Advisor Vision – Department of Education -Northern Territory

Associate Principal - Western Australian State Wide School of Educational Special Needs – Sensory – Perth

Manager - Royal Institute for Deaf and Blind Students – RIDBC Sydney

Head of Special Education Services - Queensland Department of Education
**Email Contact**

Complex Support Advisor/ Disability Learning and Support - New South Wales Department of Education and Communities

## NSW Survey of Vision Support Teachers

A questionnaire and written comments were invited from NSW Vision Support Teachers. This survey was focused mainly on access technology support, training and development but also included other support services available at state level.

The survey was available on the Survey Monkey platform and made available as a link. This survey was designed to be completely anonymous (even to me as researcher). The survey link was distributed through Vision Support Teacher Assistant Principals who passed the link on to their team members.  54 Vision Support Teachers participated in the survey with many contributing written responses.

# Literature Review

## Australian Vision Support Education

'The Vision Education Scoping Report' (Hollier etal, 2013), produced by Media Access Australia is a welcome document looking "at systems, processes and technology currently being used" (p.5).  This report gives an overview of the Vision Education systems in different states and territories with a focus on transcription services and information access. The report was extensive in its reach to all states and territories and included the Catholic and Independent Vision Education Services.

The conclusion of the report makes some useful recommendations including the need for states and territories to collaborate and share information and resources (Hollier etal, 2013, p.51). Other valuable suggestions include the production of resources: textbooks, video with audio description, in-class resources, web access homework and excursions (Hollier etal, 2013, pp.50- 51). However, the report does not make specific reference to teaching practices, skill development or specific braille access technology for blind students.

## Essential Skills for Blind Students

### Braille

One of the important research projects to emerge on braille education in the last 20 years was the work by Ruby Ryles from 1996, 'The Impact of Braille Reading Skills on Employment, Income, Education and Reading Habits'. Her research clearly linked braille and literacy skills to employment and education success (Ryles, 1996).

Massof's (2009) work, 'The role of Braille in the literacy of blind and visually impaired children', is from the perspective of an Ophthalmologist and argues that there has been a shortfall in the teaching of literacy to blind students. He calls upon fellow Ophthalmologists

to use their position to encourage parents of blind children to recognise the importance of braille.

The article, 'Supporting Students- Literacy Through Data-Driven Decision-Making and Ongoing Assessment of Achievement' (Holbrook, 2009), very clearly makes the point that braille is as important as print: "the value of reading through braille is equal to the value of reading through print" (p.133). Holbrook regrets that even though her research was in the 200 years since Louis Braille's birth, many parents and educators still need to fight for quality braille services. Holbrook (2009) plainly states: "Students who are blind and visually impaired have the right to appropriate educational services" (p.135).

## Access Technology

Argyropoulos, et al's (2008) research on, 'The Impact of the Perspectives of Teachers and Parents on the Literacy Media Selections for Independent Study of Students Who are Visually Impaired', concludes that, "assistive technology should be indispensable, promoting the literacy skills of students and not hampering their development" (p.230). Just as technology is now essential for the sighted student, so too technology should be seen as essential for the braille student and this research draws the link between literacy and technology.

The importance of training teachers in access technology was noted in the 2002 study by Abner and Lahm (2002), 'Implementation of Assistive Technology with Students Who Are Visually Impaired: Teachers' Readiness'. Abner and Lahm (2002) found that the unique aspects of the technology for vision impaired students meant that only half of the students in their study used computers in their educational programs.  They concluded that teacher training in the technology was essential.

'The Melbourne Declaration on Educational Goals for Young Australians' (Barr et.al., December, 2008) was the basis for ACARA developing a National Curriculum. A key point on the definition of successful learners states – "they have the essential skills in literacy and numeracy and are creative and productive users of technology, especially ICT, as a foundation for success in all learning areas", (Barr et.al,  December, 2008, p.8).

Vision Australia (2012) research shows that using technology gives the blind person an advantage in the employment market.  With an unemployment rate of 58%, of the 46% who do have a job, 94% use access technology in their work roles (p.4).

## Self- Advocacy- Social Skills and Independence Skills

Zebehazy and Smith (2011) research –'An Examination of Characteristics Related to the Social Skills of Youth with Visual Impairments': cite earlier work by Pring, Dewart, and Brockbank (1998) which notes how important vision is in the development of social behaviours and understandings.  Zebehazy and Smith (2011) also cite the work of

Farrenkogp and Davidson (1992) and McAlpine and Moore, (1995) who also emphasise the role vision plays in the development of attention behaviours and perspective taking that are necessary for social understandings. Also noted by Zebehazy and Smith (2011) is Wolffe and Sacks' (1997) work that found children with limited sight can be more passive and self-isolating compared to sighted peers.

Very importantly Zebehazy and Smith (2011) cite McBroom, Tedder and Kangs' (1991) work on the detrimental effect of overprotection by family and/or providers of services to the vision impaired students, which can lead to a lack of independence.

A framework of skill instruction for children with vision impairments, both low vision and blind students, was first devised by Phil Hatlen in 1996, (Sapp & Hatlen, 2010). This framework of 9 skills includes: compensatory or access skills, career skills, independent living skills, Orientation and Mobility Skills and concepts, social interaction skills, assistive technology and sensory efficiency skills, (Sapp & Hatlen, 2010, p.339). These skills known as the Expanded Core Curriculum (ECC) has gained widespread use in the USA and Australia. As Sapp and Hatlen (2010) note, it provides, "a common language and understanding for structuring assessments and planning educational programs" (p.338).

Professor Ron McCallum, a participant in this research, was a former Chair and is the current Vice Chair for *Convention on the Rights of Persons with Disabilities (CRPD).* Maya Sabatello and Marianne Schulze, Editors (2014) of the New Publication 'Human Rights and Disability Advocacy', cited on the University of Pennsylvania Press Website as is described below.

> *'The United Nations adoption of the Convention on the Rights of Persons with Disabilities (CRPD) constituted a paradigm shift in attitudes and approaches to disability rights, marking the first time in law-making history that persons with disabilities participated as civil society representatives and contributed to the drafting of an international treaty.' (Sabatello & Schulze, 2014)*

It seems the paradigm shift has started with New Zealand, Victoria, South Australia and Western Australia Vision Education Systems. By having professional blind people engaged at the policy level, education level and information technology level, these jurisdictions clearly aligns with the approach to disability rights of the United Nations Convention on the Rights of Persons with Disabilities.

# Research Analysis and Findings

## Themes – Professional Blind Participants

### 1. Braille Skills

All blind participants noted braille as being a major contributing factor in their education success and most credited their knowledge of braille as the most significant factor in their development of literacy and numeracy. Most of the participants were very strident in their

statements about braille being a key to understanding language. Only with skills in braille are they able to effectively participate in the work place.

Discussion about the general population's lack of understanding about braille as being old fashioned and unnecessary in education today, was a common concern for most of the participants.
"If we don't need braille then we don't need print", Bruce Maguire.
"I was given very intensive Braille instruction" and "I just can't imagine having had the career I've had, if I didn't have good access to Braille", Jonathan Mosen.
"Braille Music has definitely been a critical part of my life for the past 8 years or so (I'm 19). I really can't imagine doing schoolwork without Braille textbooks, especially not for Maths and Science. I like using my BrailleNote because I have the freedom to combine Braille and speech as I like", Aine Kelly-Costello.

## 2. Access Technology Skills

**Importance of Technology**

Most of the questions for participants related to technology. While the importance of technology in education is already known, it was thought common approaches and themes related to blind access technology would emerge. The importance of access technology was a very significant theme, with all participants noting the fantastic increase in access to information that is now available to the blind user. Technology was seen as complementary to braille just as technology is complementary to sighted people using print. All participants did use computers with screen reading software. Most used 'Job Access With Speech' (JAWS), but many used both JAWS and 'Non Visual Desktop Access' (NVDA) and some participants used Apple computers with VoiceOver software.

**Importance of Using a Range of Technology**

A common theme was the wide range of devices that individuals used to access and store information. Computers, iPads, Android devices, iPhones, scanners, embossers, voice recorders and Apps were used by the participants. All participants but one, use a refreshable braille device; some linked the device to a laptop / computer or IOS device but more than half use standalone refreshable braille devices like BrailleNote and Braille Sense. All participants valued their touch-typing skills that they all learnt at school and used qwerty keyboards even though they also use braille devices. Many advised students to learn touch typing early in their school years.

Participants noted the need for a range of access technology to enable different activities and also to allow for inevitable technology failures. "I generally use JAWS but I keep up to date with NVDA so that if JAWS is not working I always have a backup", Mary Schnackenburg.

Keeping up to date with changes to technology was done in a range of ways: email group lists, twitter, internet browsing, social connections, blogs and through websites like Vision Australia and Media Access Australia and FaceBook.

**Barriers to Access of Information**

A notable barrier was the prevalence of inaccessible websites, with poor design making navigation impossible. Images without text tags were also inaccessible and frustrating to the blind user. Scanned PDF documents were noted as major barriers to accessing information, as were Word documents that don't employ appropriate heading levels to enable navigation.

Copyright legislation that restricted sharing of accessible books internationally was seen as a major barrier with only 5% of books being accessible in Australia. There was hope for an expansion of the accessible books with the signing of the World International Property Organisation (WIPO) Treaty, also known as the Marrakesh Treaty. Participant Maryanne Diamond was a major international negotiator responsible for working towards this treaty becoming a reality, yet she notes the years of work ahead for countries to ratify this treaty.

Failure to properly test the IT systems, networks and equipment was seen as a major barrier to accessing information. Many participants had experiences where they were told (by sighted IT personnel) that a website or document or system was accessible but they found that it wasn't. Many participants noted the need to have systems and equipment tested by a blind technology user as the best way to ensure accessibility.

Other points:
- Regular upgrades to systems, software or websites were also major barriers to access. This is because blind user access was generally not considered with the system upgrades.
- Many participants also noted the importance of their low–tech access technology ie mobility canes.
- The high cost of equipment was noted as a possible barrier for many blind users.
- 'Captcha' Technology: personal identification checks on website got a lot of mention as something that was a barrier to shopping online and signing up to websites.

## 3. Self-Advocacy/Social Skills

Self-advocacy/social skills were noted as essential skills for blind students. Participants discussed the common misunderstandings and prejudices of the general public, businesses and institutions. They cited their ability to clearly articulate and communicate their needs as a blind person as a fundamental skill needed to navigate their daily lives. As blindness is such a low incidence disability, combined with the fear that many sighted people have of

blindness, means that self-advocacy/social skills are crucial skills for the blind person. The participants noted that they need to express their needs with great skill and tact on a daily basis.

What the participants described was more than 'standing up' for one-self as they discussed the need for students to learn the social skills that sighted students take for granted. These included: eye contact, body language and posture and also the best way to ask for assistance and to gain additional information about the environment around them. The participants noted the need to be able to use a range of social skills in putting the sighted person at ease and also offering suggestions to issues or problems. So self-advocacy and social skills combine to provide the blind person with the skills they need to navigate the daily life of work, recreation and leisure.

A sighted person meeting a blind person for the first time can be very nervous; some participants discussed helping the sighted person to feel more relaxed about meeting a blind person. Asking for help, access and support is an important skill for the blind student and doing so with tact and social awareness is a complex skill that needs to be taught over time. Ramona Mandy discussed the many body language and posture skills a vision teacher needs to teach the blind student.

Also discussed was the need for the blind person to navigate situations with humour, self-confidence, sensitivity, tact and with a thorough understanding of body language and facial expressions. Self-advocacy/social skills is about knowing about your eye condition and discussing this comfortably with others, but also knowing the tools and requirements needed in the workplace or higher education, on public transport and at the shopping centre. For example, Michael Curran discusses the need to offer solutions for those you are seeking support from. He spoke about the experience of not being able to access the My School website and was repeatedly told it was accessible when he complained. His solution was to offer suggestions in programming and help the website developers fix the issues.

### 4. Independence Skills

Developing independence skills was the fourth very strong theme to emerge from the video interview and questionnaires. Not only was independence of travel (Orientation and Mobility – use of white cane etc) highly valued but also independent living, recreational activities, personal organisation and access to information. For example: "Travelling independently was another skill I've found which increased my confidence and indirectly, ability to learn. Walking is my stress relief, and also enables me to get to university and school and work of course", Andrew Lyons.

**Encouragement to be independent from a young age**

A common idea was the link between having the freedom to explore from a young age, and developing independence as an adult.  Many identified the benefits of parents not making excuses for their blind child, but rather insisting they share the same tasks as their siblings. Being allowed to make mistakes and not being fearful of new experiences was considered important.  For example: Ryan Honschooten discusses the need to expect the students to be independent; he recalls his own experiences of mowing the lawn and riding a bike from a young age.

**Importance of Peer Support and Blind Role Models**

Participants noted the importance of role models in their early experiences and noted the importance of peer support in their education. For example:  Mary Schnackenburg recalled the first time she went shopping with a blind teacher and was particularly delighted  to learn the teacher lived independently and cooked for herself, " was the highlight of my primary school years".

Sam Taylor notes how his school education was a mainstream education, yet he recalls the importance of role models and peers support in the few experiences he had at Music and Vision Camps.

Kylie Forth recalls her first sailing experience and the importance of this skill in her life. She also values the connections to other blind citizens who live independently.

# Vision Support Education for Blind Students Best Practice in our Region

## Immersion Courses – Supporting Essential Skills for the Blind Student

Immersion Courses with a strong focus on braille and access technology were found in: New Zealand, Victoria, South Australia and Western Australia. The courses are generally held each term and with groups determined by age level. The courses are held over a number of days with the main focus on either braille skills or access technology while covering curriculum topics. Royal Institute for Deaf and Blind Students held a braille camp each year on campus as part of the Tele-School.

The immersion courses were seen as a way of providing quality skill training in braille and access technology, and included the elements of: peer support, and role-model support as well as training and development for the key members of the learning support team from the regular school.  The courses offer peer support to students from an early age, so that students know from the start of their education that they are not the only ones in the world using braille. The contact with other braille professionals also ensures a quality and

consistency of braille; it is known isolation can mean falling into bad braille code habits inadvertently (Rosenblum, 2014).

The immersion courses provide relevant inservice training for Vision Support Teachers, but also class teachers, teacher's aides, parents and transcribers. As the staff accompany the blind student in the immersion classes it enables all staff to gain experience and inservice at the same time and so develop consistency of approach that is then taken back and continued at the mainstream school. Once back at the regular school they also know that they have back-up support from the Vision Education School or Vision Resource Centre where the immersion courses are held.

Immersion courses for access technology support are particularly efficient models for support. The students bring along their own access technology devices so training is targeted at their needs. Students are supported to extend their skills and independence with their devices. At the State-Wide Victorian Resource Centre there are two blind access technology users on staff. They also invite a guest blind access technology user to support students on a regular basis. Blind users of technology were highly valued as members of the immersion course programs. Royal Institute for Deaf and Blind Students and Queensland Department of Education, Training and Employment (DETE) each employ a blind teacher as an access technology teacher and consultant.

While the immersion courses were centred on braille and access technology skills it was recognised by the educator that the courses were also the perfect vehicle to deliver skills training support in self-advocacy/social skills and independence skills training.
As one of the educators I met noted: "The family are the child's first and most important teachers and many of them have never met a blind person before having their blind child". Training and encouragement for the family is crucial as the student needs to be encouraged and supported at home with the independence and advocacy/social skills as well as the braille and access technology skills.
The parents are invited to attend the immersion courses with their child. Parents are then able to develop networks of parent-support for themselves. In New Zealand the school provides accommodation and transport for one parent to attend the immersion courses and they ensure all students and the relevant staff can travel to immersion courses from anywhere in the country.

## Partnerships with Citizens who are Blind, Vision Support Education and Education Administration

Blind and Low Vision Education Network New Zealand (BLENNZ) is an outstanding provider of quality vision support education in our region. Their supports and programs include: a 13 member assessment team (that also travels to the regions), Homai Campus special school, preschool, immersion course program, National Visiting Teacher service supporting inclusion in mainstream school, and a residential transition training facility.
It is the partnership that BLENNZ has developed with of The Blind Foundation and The Ministry of Education that has enabled solid understanding and commitments between the groups. This partnership was set up with the establishment of BLENNZ and it appears to be

the best insurance that future developments in policy and organisational changes have a genuine understanding of the needs of blind students.

Partnerships with blind citizens are now needed to address barriers in our Australian blind education programs. While valuable statements about diverse learners and disability are included in the Australian Curriculum Assessment and Reporting Authority's (ACARA) 'Shape of the Australian Curriculum Version 4' (ACARA, 2012b) there is no acknowledgement of the unique skills that blind students need to learn to access the Australian Curriculum. ACARA (ACARA, 2012c) has acknowledges those students who don't have English as their first language with the document, 'English as an Additional Language or Dialect Teacher Resource: Overview and EAL/D Learning Progression', (ACARA, 2012c). Skills in English are recognised as essential to access the Australian Curriculum (ACARA, 2012c, p.2). ACARA is to be commended for developing specific resources for students who need specific skills to enable them to access the Australian Curriculum. Now recognition is needed for the essential skills and resources blind students need to access the Australian Curriculum.

With Blind Citizens involved at the organisational level of education policy then perhaps blind teachers and blind staff members will be employed and seen as essential to a NSW education system that supports blind students.

# Key Recommendations

- Develop a State-Wide Vision Resource Centre (along the lines of the State-wide Vision Resource Centre – Victoria, as a system with proven success and compatibility with the existing decentralised administration structure of the NSW Department of Education and Communities).

- Develop and deliver immersion courses for blind students in NSW along the models used by the State-wide Vision Resource Centre Victoria, Blind and Low Vision Education Network New Zealand, South Australian School for Vision Impaired and the Vision Education Service - Western Australian.

- Ensure blind professionals are key partners in the development and delivery of state and federal education policy for blind students.

- Employ blind professionals as teachers and access technology experts.

- Employ blind professionals to work with NSW DEC IT departments to ensure accessibility for blind users throughout the DEC IT system (including: universal design curriculum materials, network systems, websites, virtual learning environments and all multimedia classroom resources).
- Develop a more efficient and streamlined approach to the provision and technical support of access technology for blind students.

## General Discussion

Blindness requires the child to develop a number of skills that need to be practiced over time. Gordon Dutton (2013) Professor of Ophthalmology Neurology at Glasgow Caledonian University has noted that it is now thought that at least 50% of the brain is responsible for vision. This high impact disability requires skill training to enable the student to learn the skills that come automatically to a sighted child. The experience of blind professionals clearly shows that with appropriate training, independent and highly successful careers are certainly achievable.

Looking at the issue of blind education purely in economic terms the relatively small cost for society of providing the quality skills based education and access to the curriculum results in long term economic gains. Vision Australia (2009) research *'Social Return on Investment Index':* For every $1 invested in Vision Australia's Employment Services, $8.58 is created in social value' (p.1). Vision Australia engaged Social Ventures Australia (SVA) Consulting to undertake an assessment of the Children and Family Services using the Social Return on Investment (SROI) methodology to determine the economic gains.

Vision Support Teachers in New Zealand, Victoria, South Australia and Western Australia who have the benefit of programs and resources from their Specialist Vision Support Education Centres are proud of their systems. The immersion courses are seen as crucial to supporting inclusion at mainstream schools and supporting them professionally to provide quality education and access the curriculum. All the informal conversations about the quality education provided from immersion courses elicited positive responses from staff members. They see the benefits first hand not only for their students' skill development but also for their own professional development and for parent support, enabling a consistent informed approached both at home and at the mainstream school.

Most teachers in NSW will have never taught a blind student and that includes Principals and Executive Teachers. Because of the lack of understanding of the complexity of Vision Education, some Vision Support Teachers are not given permission to attend out of school in-service training or professional development for Vision Education. As all training and development funds are held at the base schools, Principals do exhaust funds for other areas of training so nothing is available for the Vision Support Teacher specific training. Also of concern is that some blind students are not encouraged or given permission by schools to attend NSW Vision Camps in the years they can be organised by NSW Vision Teachers. There persists a lack of understanding about the importance of peer support for blind students as a mechanism to support 'inclusion' in mainstream schools; some Principals and senior administrators adhere to an ideology that 'inclusion' is only attending regular school camps.

By thinking of the experience for a young blind student attending kindergarten it is not difficult to understand why the Vision Support Teachers from New Zealand, Victoria, South Australia and Western Australia value their systems.

A blind student attending school will soon realise that they are the only student in the school who uses braille and a cane. They will be the only student who cannot see the images on the Electronic White Board at the front of the room that will be used for most lessons. They will be asked questions from other curious students "why can't you see?" "why don't you wear glasses to fix your eyes?" "why have you got that noisy machine that makes dots?". This experience can be very confronting and make a child feel quite isolated in the school setting.

Luckily for students in New Zealand, Victoria, South Australia and Western Australia the young blind student will attend braille and access technology immersion class during Term 1 with their Vision Teacher, their Aide (known as Student Learning Support Officer – SLSO in NSW). They will meet other blind students, this most probably for the first time. They will be able to access peer support, ie. compare canes and braillers and chat about the questions the other students ask them at their mainstream school. The young blind student will also meet blind adults, most likely for the first time. They will be immersed in braille and tactile experiences and probably touch their first refreshable braille device and this will all be normal.

When the young blind students attend their school next, the student will be able to talk about Mr Smith who reads braille really fast and they can recount the wonderful stories and jokes that were shared. They can discuss Ms Jones' BrailleNote computer where the dots go up and down and how it speaks the words. They will get to know that Ms Jones catches the bus to school and hear the stories about how she goes sailing with her children on the weekend. They will have begun to experience the many possibilities that do exist for them.

'Every Student Every School: Learning and Support Policy', (NSW Department of Education and Communities, 2012) is an important document that provides a framework for learning and support with five key elements: Teacher Quality, Accountability, Teaching and Learning, Collaboration and Curriculum" (p.9). These five key elements fit well with the recommendations of this research, ie: "Curriculum: Working towards high quality outcomes through rigorous, meaningful and dignifies learning for every student", (NSW Department of Education and Communities, 2012, p.9).

# Conclusion

Four skills that are essential for blind students' education emerged as themes from interviews with 22 blind adult professionals. Braille emerged as the most dominant and crucial component skill with participants noting the fundamental importance of braille for literacy and numeracy. Access technology was also considered to be essential just as technology is now essential for all professionals in the workplace today. Self-advocacy/social skills were seen as crucial skills for all blind persons as blindness is so rare yet poorly

understood by the general population. Independence skills are to be encouraged from a young age to set them up for a life of possibilities with confidence and curiosity.

Blind individuals need to be included as key partners in the development, planning and delivery process for blind educational policy. Understandings and partnerships among educators and departments of education, parents and administrations are keys to effectively implementing curriculum access for the blind student. False assumptions about education of blind students and access can be avoided by including blind professionals to work on the planning and implementation of Vision Support Education.

New Zealand's long standing partnership with blind professionals is reflected in their comprehensive quality national blind education programs. Immersion courses address the four essential skill areas identified by the blind professionals. This approach is also employed by quality programs delivered from the Vision Resource Centre in Victoria, The School for Vision Impaired South Australia and Vision Education Services Western Australia.

Berryman and Innes (2014) noted the misguided events that Louis Braille witnessed at the Blind School, L'Institut National des Jeunes Aveugles, in Paris nearly 200 years ago. Well-meaning sighted directors of the school destroyed braille books and discredited the braille system in favour of more visually accessible books with embossed lettering.  Thankfully sanity did prevail in Louis Braille's life time when he and fellow blind teachers and students were heard as partners in the education process. The six dot Braille system was finally recognised as the key to literacy for blind students and braille was allowed to flourish.

Responses to the survey of NSW Vision Support Teachers as part of this research, has revealed many barriers are hindering the delivery of quality education for our blind students and limiting their access to the curriculum. The research has also found that several of our neighbouring education systems do have quality programs that support essential skill development in braille, self-advocacy/social skills, independence and technology for blind students. This better ensures those students the best opportunity to access the National Australian Curriculum.

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