

*Journal of the*  
**South Pacific  
Educators**  
*in*  
**Vision Impairment**

**VOLUME 8, NUMBER 1, 2015**

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includes these articles by the following leading educators and researchers

**Karen Wolffe**

Parents as partners

**Gretchen Good**

Emergency plans in schools: Individualised disaster planning for students with impaired vision

**Jane Brown**

Focus group methodology: Procedures to maximise stakeholder talk about the preparation of young people with vision impairment for post-school life

**Sue Silveira**

A review of the impact of glare and fatigue on visual function

**Tim Connell**

PDF use within the blindness and low vision sector in Australian and New Zealand

**Heather Grainger**

Professional support from the Association

# TABLE OF CONTENTS

TABLE OF CONTENTS.....	1
President’s Message .....	7
Editorial.....	9
Parents as Partners .....	10
Karen Wolffe	
Emergency plans in schools: Individualised disaster planning for students with impaired vision .....	17
Gretchen A. Good	
Focus group methodology: Procedures to maximise stakeholder talk about the preparation of young people with vision impairment for post-school life.....	29
Dr Jane Emily Brown	
A review of the impact of glare and fatigue on visual function.....	51
Sue Silveira	
PDF use within the blindness and low vision sector in Australia and New Zealand.....	60
Tim Connell	
Professional support from the Association.....	64
Heather Grainger	
The Australian Curriculum: Access for students with vision impairment who may also have additional disabilities .....	67
Rebecca Davis	
The implications of monocular vision on orientation and mobility.....	77
Melissa Fanshawe	
Two critical reviews of recent literature in the field of vision impairment .....	87
Emily White	
Leslie Braman	
REPORT: SPEVI Online.....	91
Phia Damsma	
REPORT: New app helps children with vision loss communicate .....	92
Annette Clarke	
REPORT: Sonokids Ballyland Magic App .....	93

Phia Damsma	
REPORT: Video Conferencing: A summary of the VidKids™ Pilot Project at Vision Australia.....	95
Geraldine Ryan	
REPORT - Vision Australia .....	97
Geraldine Ryan	
REPORT: Statewide Vision Resource Centre (SVRC) .....	99
Debra Lewis	
REPORT: South Australian School for Vision Impaired (SASVI).....	101
Sheila Klinger	
REPORT: Round Table on Information Access for People with Print Disabilities .....	104
Neil Jarvis	
REPORT: International Council for Education of People with Visual Impairment (ICEVI) .....	106
Frances Gentle, James Aiwa, Barbara Farouk, Mereoni Daveta and Ben Clare	
SPEVI Special Recognition and Tributes, 2015.....	112
Special recognition: Galiema Gool, Scholarship Recipient	
Special recognition: Jackie Booty	
In Memorium .....	115
Tammy Axelson	
John Alfred Shute	
About SPEVI .....	116
SPEVI Office Bearers for 2015-2017.....	118
Committees of Management	
SPEVI Councillors	

## **ROLE OF THE SPEVI JOURNAL**

South Pacific Educators in Vision Impairment (SPEVI) Inc. is the major professional association for educators of students with vision impairments in Australia, New Zealand and the South Pacific region. SPEVI acts as the professional body in matters pertaining to the education and support of preschool and school-age students who are blind, have low vision, deaf-blindness, or additional disabilities.

The Editorial Committee intends the Journal to be a vehicle for informing researchers, administrators and educators working in government and non-government education organisations, as well as specialist and generic teachers, orientation and mobility (O&M) instructors, allied professionals, parents and others in our communities about research, issues, policies and their implications for practice in Australia, New Zealand and the Pacific Region.

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SPEVI membership is open to educators, professionals and parent groups supporting children and adults with vision impairments. This Journal is provided free to SPEVI members as part of their annual membership benefits. There is an A\$25.00 subscription fee per volume for non-members (A\$35.00 for subscriptions outside the Pacific region). Membership information and forms are available on the SPEVI website, <http://www.spevi.net/spevi/index.php>. All correspondence regarding JSPEVI subscriptions to:

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## **CALL FOR ARTICLES**

Original manuscripts, reports and news items are sought for the refereed and non-refereed sections of the next issue of JSPEVI. Topics appropriate for the journal include, but are not limited to the following:

- original research studies, with practical relevance to education of persons who are blind or vision impaired,
- literature and book reviews,
- conceptual, policy or position papers,
- descriptions, reviews or evaluations of innovative instructional curricula, programs or models of education for persons who are blind or vision impaired, and
- letters to the Editor

## **LETTERS TO THE EDITOR**

Members of the editorial committee wish to encourage discussions of important issues that affect the education of children and adults with vision impairments. The journal should be a vehicle for continuing dialogue about current and future directions. The editorial committee invites letters that explore the many issues facing professionals and families supporting learning with sensory disabilities, particularly those arising from articles in the journal.

## **GUIDELINES FOR CONTRIBUTORS**

All manuscripts and reports should be produced in Word (or equivalent) format, in 11-point Arial font, with 2.54cm page margins, double line spacing, left alignment of paragraphs, and pages numbered. Please set the language to “English – Australian”.

### ***Manuscript articles for peer review***

Manuscripts consisting of the following sections should be submitted electronically as separate files:

*Section 1 Author information*, including (a) the manuscript title, (b) name/s of each author(s), (c) professional status/title and place of employment of each author, and (d) contact details (address, email, fax, telephone) for the principle author, or the co-author who will be handling correspondence.

*Section 2 Manuscript*: The preferred size limit for manuscripts of articles is approximately 4000-5000 words or less, depending upon the nature of the content. Manuscripts should commence with an Abstract of less than 120 words, giving a brief summary of the submission. A running title header should be included on each page (with no authorship information included). Figures and tables should be cited in the text, with a suggested location identified, for example “Insert Figure 1 about here”. Always refer in the text to Table 1 or Figure 2 and not to “Table 1 above” or “Figure 1 below”. Manuscripts should conform in style to the Publication Manual of the American Psychological Association (6th edition, 2010). A brief APA guide may be downloaded from Curtin University website, <http://libguides.library.curtin.edu.au/content.php?pid=141214&sid=1335391>.

*Section 3 Figures and tables* should be numbered and provided in a separate file. Tables should be created using a table function, such as in Microsoft Word, and double line spaced. Figures must be production-ready, with consideration to the readability of the figure when reduced for publication.

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### ***Manuscript review process***

Manuscripts will be acknowledged upon receipt. Following preliminary editorial review, articles will be sent to members of the Editorial Panel and where warranted, to consulting reviewers who have particular expertise in the subject. The review process may sometimes take up to three to four months. This journal uses the “blind review” system. The names of consulting reviewers will periodically be published in the journal. Reviewed manuscripts will remain the property of South Pacific Educators in Vision Impairment (SPEVI). Original manuscripts will be returned to the primary author if not accepted for publication.

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***Manuscript submission***

Please forward your contributions for the next issue of JSPEVI to the Convening Editor:

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## President's Message

Dear Readers,

January 2016 marks 60 years since SPEVI's formation as a professional association for people supporting learners with vision impairment. The early history of SPEVI, as presented in the history section of the website, reports the formation year as 1955. However, Dorothy Hamilton and Joan Heckman attended the first meeting and maintain that it took place in January 1956 (and not 1955). I thought it was timely to recall some of the Association's history and acknowledge with thanks, the reminiscences of Dorothy Hamilton, Joan Heckman and Heather Grainger.

The first "get-together" in January 1956 took place at the Anglican Retreat House in Cheltenham, Victoria. The event brought together for the first time, approximately 40 members of the Guilds for Professional Blind and professionals working in the educational institutions for learners who were "blind, deaf and dumb" in Victoria, New South Wales, Queensland, South Australia and Tasmania. Hamilton (nee Nuske) and Joan Heckman (nee Maurice), recall the inspirational keynote address by Mercy Dickenson (nee Griffin), a well-respected teacher (and former student) of the Institution for Blind, Deaf and Dumb in Queensland (later called the Brisbane School for the Blind). Mercy Dickenson had completed her secondary education at the Brisbane State High School and undertook tertiary studies at the University of Queensland, where she was awarded a Fulbright Fellowship to study in the United States. Her insights into the American system of education for blind students was the focus of her keynote address.

The 1956 meeting highlighted differences in state approaches to education provision for students with vision impairment, and the charity conditions in Australian residential institutions. The stand-out message of the meeting, as recalled by Dorothy Hamilton, was that those with partial vision were not blind and their sight needed to be developed rather than "saved". The Royal Victorian Institute for the Blind (now Vision Australia) for example, taught braille to all children with vision impairment, regardless of their level of vision. This approach contrasted with the use of magnifiers and large print by the NSW Institution for the Deaf, Dumb and Blind (now the Royal Institute for Deaf and Blind Children, RIDBC).

There was consensus among the attendees that the Australian Association of Teachers of the Blind (AATB) should be established, with regular conferences to be held across the states. The first president was Paul Percy of the NSW Institution for the Deaf, Dumb and Blind (RIDBC), and full membership was limited to educators of students with vision impairment. Dorothy Hamilton's membership was restricted to associate membership as, although blind, she taught sighted children in a regular school. Heather Grainger recalled the long and sometimes heated arguments about changing the membership rules to enable teachers with vision impairment to become full members.

Under the leadership of Paul Percy, AATB was expanded in 1960 to include New Zealand teachers and associate professionals. A personal account of this period by Heather Grainger is included in this volume of JSPEVI. The Association underwent two further name changes in 1969 and 1989, becoming first the Australian and New Zealand Association of Teachers of the Visually Handicapped (ANZATVH), and then the Australian and New Zealand Association of Educators of the Visually Handicapped (ANZAEVH). In 1999, members adopted the present

name of South Pacific Educators in Vision Impairment (SPEVI), in recognition of the mutual benefits of sharing expertise in vision impairment with professionals and parents/carers in Pacific Island Countries.

Over the course of its history, SPEVI has expanded its membership to include educators, parents/carers, therapists, orientation and mobility instructors, technology consultants, academics, and administrators. SPEVI has offered a range of regional, national and state/territory conferences, workshops and seminars for professionals and parents. SPEVI Queensland for example during the 1980s and 90s, secured government funding to deliver parent seminars and vacation programs for teenagers with vision impairment living in regional and metropolitan locations.

As members are aware, there is a pressing need for SPEVI to advocate on behalf of its members at national and local levels. Government and non-government education providers are increasingly moving from direct to consultative education support for students with vision impairment, with general special educators and teacher assistants being recruited rather than specialist teachers (VI). These changes in educational service provision coincide with a reduction in SPEVI activities at branch levels. In recent years, the Committee of Management has been working to promote the important role of specialist teachers (VI) in ensuring the provision of equitable, quality education programs and services for students with vision impairment and their families/carers. SPEVI's initiatives have included publication of the journal (2000-present), and publication of the 2004 *Principles and Standards for the Education of Children and Youth with Vision Impairments, Including those with Multiple Disabilities*; the 2015 *Professional Standards for Specialist Teachers (Vision Impairment)*; and the 2015 *Standards Elaborations for Specialist Teachers (Vision Impairment), Career Stages*.

With the release of this eighth volume of JSPEVI, I take this opportunity to recognise with thanks the contributions of the SPEVI Committee of Management, the JSPEVI Editorial Committee and Editorial Advisory Panel, and individual SPEVI members. During the year, the Committee of Management instigated a number of initiatives that were drawn from a review of the January'15 member survey responses during the Committee's strategic planning meeting. In terms of governance, David Rice (Treasurer) has upgraded and consolidated SPEVI's bank accounts and accounting system, and coordinated the drafting of the new SPEVI Constitution. SPEVI's online presence has been strengthened through the establishment of a Facebook page, administered by Ben Clare and Karen Gilligan, and a complete makeover of the SPEVI website, led by Phia Damsma. The website upgrade included an update in content, a change in domain registration, and transition to the WordPress content management system.

Two new SPEVI working groups were established this year to promote SPEVI's peak body status and to raise awareness of the important role of Specialist Teachers (Vision Impairment). They are the Membership working group, chaired by Hellen Riley, and the VI-NDIA-SPEVI Working Group, chaired by Phia Damsma. The groups are in addition to the SPEVI Leaders in Vision Education Services (LIVES) group. Other significant activities include establishment of a new membership category entitled "Qualified Specialist Teacher (Vision Impairment) plus Professional Learning", and development of a SPEVI Code of Ethics and Complaint Handling Policy. These initiatives resulted in our successful application for membership of the Department of Social Services' Early Intervention Service Provider Panel for the BetterStart Program, with qualified SPEVI entitled to register as BetterStart service providers.

Frances Gentle

## Editorial

The SPEVI journal provides an opportunity for professionals, researchers, students and organisations to share their perspectives and opinions on a wide variety of issues and topics relating to education of children, youth and adults in Australia, New Zealand, Pacific Island countries who are blind, have low vision, deafblindness or additional disabilities. This volume includes articles that link with the outcomes of the 2015 Melbourne SPEVI conference, including an article by Karen Wolffe on the importance of professional-parent partnerships. Members who attended the Conference will recall the highly successful series of presentations for parents, including keynotes and workshops delivered by Karen Wolffe and Susan LaVenture. Also featured in this volume is an article by New Zealand academic, Gretchen Good, who highlights the need for school emergency planning for students with vision impairment. Emergency planning is of particular importance to educators in New Zealand and Pacific Island countries that are prone to natural disasters. Also presented in this volume is doctoral research by Jane Brown into procedures that facilitate and hinder schools to post-school transitions for young people with vision impairment, and a review of literature by Sue Silveira on the impact of glare and fatigue on visual function. Readers will be interested in the results and recommendations of Tim Connell's review of the use of PDF formats by a select group of leading Australian and New Zealand organisations supporting people with vision impairments, and the submissions by current and former RIDBC Renwick Centre students, Rebecca Davis, Melissa Fanshawe, Emily White, and Leslie Braman. The Special Recognition and Tribute section includes tributes to Tammy Axelsen and John Shute who passed away during 2015.

Included in this volume is Heather Grainger's personal account of her professional life and three decades of SPEVI membership. The Editorial Committee will seek articles for the 2016 volume that illustrate the educational and social context of SPEVI's 60-year history. Heather's article may invoke the memories of others who have been involved with the field of vision impairment during the past six decades.

With the increasing emphasis on digital technology, eLearning and social media, the Editorial Committee, in partnership with the Australian and New Zealand Committees of Management, has decided to increase its distribution of the journal to members in electronic format. This decision is in line with the recent decision to shift to electronic distribution of publications by such organisations as the International Council for Education of People with Visual Impairment (ICEVI) and the Round Table on Information Access for People with Print Disabilities. The Editorial Committee will also make available electronic copies of the journal to researchers and students via the Australian Education Index that is managed by Cunningham Library at the Australian Council of Education Research (ACER) in Victoria – see <https://www.acer.edu.au/library/>. Also during 2016, the Australian and New Zealand Committees of Management will seek member views on whether the journal should continue as a "members only" benefit of membership, or should be distributed more widely via the SPEVI website.

In closing, I invite you to explore the articles and reports that are presented in this eighth volume of JSPEVI. Thanks are extended to the Editorial Committee and Advisory Panel and all journal contributors. Your contributions have greatly enhanced the quality, scholarship and diversity of articles and reports featured in the volume.

Frances Gentle, Convening Editor

## Parents as Partners

Karen Wolffe

*Career Counseling & Consultation, LLC  
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During my most recent visit to Australia and New Zealand, I had the good fortune to spend much of my time with parents as well as professionals. I was delighted to begin my visit with a presentation at the 2015 SPEVI conference, *Together Towards Tomorrow*. The conference launched a three-month adventure crisscrossing the country that reinforced my belief that parents are the best partners professionals can have on their teams to truly meet the needs of children and youth with visual disabilities. In this article, I review important messages that I shared and received from parents during and after the conference.

### **A 24/7 REINFORCEMENT APPROACH**

Initially, I discuss with parents what I call “parent power” – their role as the most powerful influence in their children’s lives. There is a role that is never-ending, parenting being the penultimate 24/7 experience. I acknowledge that professionals’ roles are time-limited – professionals come into and out of the lives of children with visual disabilities on an as-needed basis. And while professionals care deeply for the children with whom they work, parents provide their children with love – ideally, unconditional love. Unconditional love meaning that parents love their children and let them know that they are loved, even when those children are naughty or do not perform as well as their parents would like for them to perform. Unconditional love does not require parents to let their children do as they would like – just the opposite. Unconditional love necessitates setting parameters for what’s acceptable or unacceptable behaviour.

I remind parents that they model their values, beliefs, biases, acceptance of differences in others, work habits, performance standards, and so forth through their behaviours and what they say to their children. The parents’ modelling will typically be reflected in their children’s behaviours and comments. This construct is critical in terms of understanding how their children will fit into the social milieu. If parents want others to like their children and respect their differences, they must model such behaviour towards others. While this effort will not always have the desired effect, positive behaviour is more likely to occur than without such effort on their part. In addition, they need to model social amenities for their children: thanking others for their efforts, begging their pardon for social faux pas such as bumping into others or coughing in their presence, and so forth. To enhance the likelihood that youngsters with disabilities will be accepted by peers, the children must present with socially acceptable behaviours and positive, accepting attitudes towards others.

Parents reinforce learning in natural environments. Much of the content inherent in the expanded core curriculum: the disability-specific skills and knowledge that children who are visually impaired must master in addition to the core curriculum, is often introduced and sometimes best taught outside of classrooms. Activities of daily living (also known as home and personal management or independent living skills) are naturally taught at home by parents: how to cook, keep house, do laundry, and perform household chores; as well as, how to take care of one’s self: bathing, brushing teeth, trimming nails, shaving, and so forth. Likewise, many

recreational and leisure activities happen outside of schools: on neighbourhood playgrounds, athletic fields, swimming pools, gymnasiums, or activity centres, rowing clubs, and the like. Parents must choose to take their children with disabilities to such locations and support them in order for them to participate actively. Opportunities at home for leisure skills that children can engage in with other family members or alone abound: craft activities, board games, decorating for holidays, reading, playing and/or listening to music, and so forth. There are also many chances for parents to be engaged in the teaching of basic career education concepts: learning to follow instructions, perform tasks at the request of others, explore career choices (learning about the jobs that family members and neighbours do, for example), and develop work skills and positive work habits, etcetera. These and other areas of the expanded core curriculum can be taught and/or reinforced at home.

### **EVIDENCE OF THE IMPORTANCE OF PARENTS' EXPECTATIONS**

To underscore the importance of their role in teaching and reinforcing elements of the expanded core curriculum, I share empirical evidence with parents, which validates that their expectations of their children can make a difference in whether those children succeed in life. The most robust evidence of the importance of parental expectations on engagement in employment came out in a Canadian study of 330 young adults (15-30 years old) with vision impairments. The young people in that study whose parents expected them to contribute at home by doing chores and actively participating in daily living activities were more likely to move into postsecondary learning environments and achieve successful employment outcomes than those whose parents did things for them or allowed others to do for them (Shaw, Gold, & Wolffe, 2007).

### **CHALLENGES PARENTS FACE**

The challenges that parents of children with vision impairments articulate to me include:

- Their own lack of training in nonvisual techniques;
- Few, if any, blind or visually impaired role models available for their children and the families to meet and observe;
- Societal stigmas and prejudice that their children and families face;
- Transportation demands that will not go away when their children are older as they are likely to be non-drivers; and,
- An advocacy role that is imposed, not chosen.

These challenges are further complicated for parents by the need to balance their time and commitments to a vision impaired child with other children and spousal needs. These challenges are coupled with the day-to-day responsibilities of supporting a family: the commitment necessary to provide shelter, food, and well-being for all dependents. My responses to the aforementioned bulleted concerns; as well as, resources that I shared with the parents are detailed in the following sections, which correspond to their concerns.

**Lack of disability-specific training.** Parents' lack of training in nonvisual techniques can be alleviated through direct instruction by teachers of students with vision impairment (visiting teachers) or other trained specialists (occupational therapists or counsellors and teachers working with adults) or by indirect instruction available in books or on the Internet. Specific resources that I've found helpful for teaching independent living skills include such books as

*ECC Essentials: Teaching the Expanded Core Curriculum to Students with Visual Impairments* (Allman & Lewis, 2014), *Making Life More Liveable* (Duffy, 2002), *Independent Living: A Curriculum with Adaptations for Students with Visual Impairments* (Loumiet, & Levack, 1993), and *Foundations of Rehabilitation Teaching with Persons Who are Blind or Visually Impaired* (Ponchillia, & Ponchillia, 1996). In addition, there are a number of excellent Internet-based resources that I typically share as well: the Washington State School for the Blind has a wonderful set of video clips demonstrating many home and personal management skills for children and youth (<http://www.wssb.wa.gov/Content/offcampus/Video.asp>); for younger children, Perkins School for the Blind offers information on everything from toilet training to bathing and personal hygiene (<http://www.perkins.org/resources/scout/early-childhood/daily-living-skills.html>), as does the Royal National Institute of the Blind (<http://www.rnib.org.uk/information-everyday-living-family-friends-and-carers-resources-parents-blind-or-partially-sighted-3>). Although focused on adults and particularly adventitiously blinded adults, the Vision Aware website ([www.visionaware.org](http://www.visionaware.org)) has tips that can be helpful to children and their families regarding living independently without good sight. Finally, one of my favourite articles on this topic is “Activities of Daily Living: Teaching Blind Children Everyday Organizational and Living Skills” (Stiteley, & Stiteley, 2006), which is available online (<http://www.wonderbaby.org/articles/activities-daily-living>) and written by a husband and wife team with vision impairments.

**Lack of role models.** An issue for many parents is the lack of role models who are blind or have low vision available for their children and family members to meet and observe. Unless the family lives in a large urban area, it is unlikely that many people with vision impairment live and work in close proximity. Blindness is a low incidence disability, particularly for children and working-age adults in the developed countries because many of the diseases that caused childhood blindness have been eradicated. There is only an appreciable number of people with vision impairment in evidence when elderly people are considered in the mix. Therefore, many children with vision impairment are the only child in a school or classroom and they may never encounter an adult working in the community with a similar disability. While there are a number of books written by and about people with vision impairment, many are written for older readers. However, some of the autobiographical works, for example *Touch the Top of the World* by Erik Weihenmayer or *No Finish Line* by Marla Runyan can be synopsisized and used to provide examples of what some individuals without sight or with impaired sight have been able to accomplish. However, my preferred resources for helping families make contact with prospective role models and to investigate and see what adults who are vision impaired are accomplishing on a day-to-day basis are websites such as the American Foundation for the Blind’s CareerConnect ([www.afb.org/careerconnect](http://www.afb.org/careerconnect)) and the World Blind Union’s Project Aspiro ([www.projectaspiro.com](http://www.projectaspiro.com)). Success stories from the Royal Society for the Blind and Vision Australia are included on Project Aspiro.

Parents and their children can reach out to adults who are blind or vision impaired to ask for their advice about assistive technology (AT) and other tools or devices they find particularly helpful. These adults are typically eager to share any “tricks of the trade” that they have picked up or learned over time. I encourage parents to ask for local leads to adults with vision impairment of their child’s visiting teacher and any other professionals with whom they have contact – orientation and mobility specialists, occupational therapists, or speech therapists working with Vision Australia, Guide Dogs, Royal Society of the Blind, VisAbility, World Access for the Blind, or other state and national organisations. I also encourage parents to use the

Internet, read books and magazines, as well as ask questions of both professionals and adults with vision impairment.

**Societal stigma.** Societal stigma and the prejudice that their children and families face is another issue that many families must confront. Since most people only know about blindness and vision impairment through such media outlets as television, movies, books, and newspaper articles, they either know of super stars (think Stevie Wonder, Andrea Bocelli, Louis Braille, and Helen Keller) or they know of people who are struggling (charity cases, beggars, and lost souls) and whose cases are made public to elicit sympathy and contributions for their welfare. What parents and professionals working with children who are vision impaired must attempt to do is educate others in their communities that it is okay to be blind. We must teach children with vision impairments disability-specific skills and encourage them to demonstrate their competence with those skills. We must also share that there are lots of very successful adults with jobs, families, homes – active participants in life who happen to be vision impaired. In schools and community-based activities such as scouting, sports, religion classes, and other venues where children congregate and want to participate, it will be important for parents and professionals to share stories from the websites mentioned above with role models. It can also be helpful to share fictitious stories with positive messages.

There is a good listing of children's books that deal with vision impairment at: <http://www.teachingvisuallyimpaired.com/childrens-books.html>. My favourite recommendations are: *Knots on a Counting Rope* (Miller, 1993), *The Seeing Stick* (Yolen, 2009), *The Black Book of Colors* (Cottin, 2008), and *All Children Have Different Eyes* (Glaser & Burgio, 2007). I share my copies of these books liberally. I encourage each of you to do the same and to share with one another interesting and positive books that you discover that can be shared with people who need information to allay their fears and concerns.

Whenever I have the chance, I remind parents the social stigma for which their children are at risk is in being unable to do for themselves what their typically sighted peers are doing at the same age. Parents need to stay in close contact with parents of typically sighted youngsters and observe those youngsters so that they can teach their children with vision impairments how to behave in an age-appropriate fashion. Children and youth can minimise looking awkward or unskilled by developing strong disability-specific skills such as learning to read with braille, walking comfortably with a long cane or using optical devices such as telescopes or monoculars, and mastering computer skills by using assistive technology and software such as screen readers or screen magnification. Without strong disability-specific skills, youngsters run the risk of having to rely too heavily upon others or being perceived of as incompetent. Parents and professionals must work together to teach skills, provide information, and then step back and let youngsters do for themselves what they can.

There are lots of adapted tools and specialty devices that can make life more manageable for people with vision impairments. In addition to the websites I shared in reference to developing independent living skills, there are a number of outlets online where devices and tools can be purchased. Entering keywords (what the parent is looking for) into a favourite browser will generate multiple listings or direct the parent to a local outlet. I also encourage parents to attend consumer conventions and professional conferences where they may see many of these devices and tools displayed; as well as, reach out to local vendors of specialty products for demonstrations.

The most critical point that I share is that parents must understand that they need to treat children who are blind or have low vision the way they would treat any child in the family – meting out the same rewards and punishments, as well as, having the same expectations. Their attitudes toward blindness and low vision are a significant influence on their child's attitude and the attitudes of those in the extended family and neighbourhood.

**Transportation demands.** Parent must also grapple with transportation demands that will not go away when their children are older as their children are likely to be non-drivers. In our car-mad, transient society, this non-driving issue comes up again and again – it is a brutal reality for people with vision impairment. Although driverless cars are in the foreseeable future, they have not yet arrived and until they do, blind and low vision individuals must problem solve transportation options without the option of driverless cars. I encourage parents to save, as many of them would (for cars or insurance to allow their children to drive their cars), and to set those funds aside into a “transportation fund.” A transportation fund can be used by children (at the discretion of their parents when they are minors) to secure transportation via bus, train, taxi, or other options to go where they want to go – to ballgames, concerts, school dances, or whatever! A transportation fund can be used to allow youngsters to go to appointments on their own or shopping with friends – the idea is to provide some measure of freedom for youth to get around without driving. Or, the parents may decide to save toward a car for a youngster who will not be a driver, but who can use a readily available car as an incentive to get others to drive for him or her! Many blind adults own their own vehicles – they've learned that it is easier to get someone to drive a car that belongs to them than to get others to drive their own car!

Parents need to understand that getting around with a minimum of restriction is a “rite of passage” for young adults. They need to recognize and prepare for their blind children to have some kind of comparable “rite of passage” even though most of them will not be able to get a driver's license and drive their own cars. Parents may want to help their children save toward some other event to take the place of securing a driver's license. It may be an unaccompanied trip to a distant relative's home via train or plane that they can “brag” about at school or it may be funding to participate in a wonderful training opportunity: lessons with a local concert pianist or choral director, dance lessons at a ballroom dance venue, an interview with an outstanding footballer or soccer player – something along those lines that would be coveted by peers and the child. The key is that the child needs to feel special and grown up.

**Forced advocacy role.** Finally, parents of children with vision impairment often find themselves in an advocacy role that is imposed, not chosen. I think it is important, as professionals, that we recognize that parents have not chosen our profession, they have not asked to be teachers of students with vision impairment, and they did not prepare for a role as advisor and advocate for students with special needs. They were planning for a child without special needs, but instead became the parents of a child with vision impairment. Although written for parents in the United States, *A Parents' Guide to Special Education for Children with Visual Impairments* (LaVenture, 2007), is a book that can help parents anywhere in the world with advocacy concerns.

There are other books, guides, and organisations that may be helpful in understanding the rights and responsibilities of parenting a child with vision impairment and shepherding him or her through the educational system in Australia: South Australia School for the Vision Impaired (Adelaide) (<http://www.sasvi.sa.edu.au/>) and Kilparrin Teaching and Assessment School (<http://www.kilparrin.sa.edu.au/>), Statewide Vision Resource Centre (Melbourne) (<http://www.svrc.vic.edu.au/>), Royal Institute for Deaf and Blind Children (Sydney)

(<http://www.ridbc.org.au/>), VisAbility (<http://www.visibility.com.au/>), Guide Doges Australia (<http://www.guidedogsaustralia.com/>), Vision Australia (<https://www.visionaustralia.org/>), World Access for the Blind (Brisbane) (<http://www.worldaccessfortheblindaustralia.org.au/>), and others. Parents in Australia have also begun to organise and form groups to support one another and share information – these groups are a wonderful option for parents. An example in Victoria is Puggles, which maintains a closed Facebook page just for parents.

## ADDITIONAL RESOURCES

Finally, I shared with the parents who attended my sessions throughout Australia a short list of books that I have contributed to and feel address their needs in meaningful ways: *Skills for Success: A Career Education Handbook for Children and Adolescents with Visual Impairments* (Wolffe, 1998), *Focused On...Social Skills* (Wolffe & Sacks, 2000), *Teaching Social Skills to Students with Visual Impairments: From Research to Practice* (Wolffe, 2006), *ECC Essentials: Teaching the Expanded Core Curriculum to Students with Visual Impairments* (Allman & Lewis, 2014), and *the Transition Tote: Navigating the Rapids of Life* (Wolffe, 2012). I also shared the following websites with them: [www.familyconnect.org](http://www.familyconnect.org) (the National Association for Parents of Children with Visual Impairments and the American Foundation for the Blind's family website), [www.nfb.org](http://www.nfb.org) (the National Federation of the Blind's website where parents can easily access the National Organization of Parents of Blind Children's online magazine *Future Reflections* with articles by and for parents), [www.tsbvi.edu](http://www.tsbvi.edu) (the Texas School for the Blind and Visually Impaired where there is information to help teach disability-specific skills), [www.blindchildrenscenter.org](http://www.blindchildrenscenter.org) (the California-based Blind Childrens Center, which has numerous publications of interest to parents), [www.hadley.edu](http://www.hadley.edu) (Hadley School for the Blind, which provides correspondence courses throughout the world without charge to people who are blind and their families), and for parents of younger children, <http://www.wonderbaby.org/> (Perkin's School for the Blind's WonderBaby site, which is written by a parent for parents). Perkin's also offers online instruction in braille for parents and family members, Dots for Families, (<http://www.pathstoliteracy.org/dots-families>).

Of course parents' challenges are balanced by the rewards and anticipated rewards of parenting. Foremost among those anticipated rewards is the joy of parenting a next generation – leaving behind a living legacy. Parents have the opportunity to see their dreams for their children come to fruition and have considerable influence on a younger generation. Our responsibility as vision professionals is to instruct their children in disability-specific skills, provide information, and support families in their efforts to ensure that their children grow up to be the best that they can be. In closing, I remind us (parents and professionals alike) of the words in the Beatles song, *The End*, "And in the end, the love you take is equal to the love you make...".

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## Emergency plans in schools: Individualised disaster planning for students with impaired vision

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### ABSTRACT

In light of recent disasters, families, schools and communities are developing plans to manage school response. Few students have individualised safety plans built into their IEPs and most schools do not have inclusive plans for safety in the event of disaster. Carefully considered emergency plans, which address the needs of all students, could bring peace of mind to families and school personnel, could prevent the exacerbation of disability and could save lives. Disabled children are at great risk for displacement during rapid evacuations and slowed reunification with families following a disaster, among other disaster related risks. The objective of this research is to provide literature based recommendations for research and practice for safety planning in schools for children with impaired vision.

**Key words:** *Disaster, emergency planning, vision impaired children*

Until recently, little attention has been paid to the development of school disaster plans for children with impairments, disabilities and health conditions. Disasters can be natural, such as blizzards, extreme heat, earthquakes, floods, tsunamis, volcanic eruption and ash fall, hurricanes, cyclones, tornadoes, lightning strikes, avalanches, landslips, fires or human made and industrial disasters such as gas leaks, chemical spills, airline crashes, nuclear accidents, exposure to noxious agents or toxic waste, dam failures, electrical fires, construction or plant accidents, suspicious goods, bomb threats, gang behaviour, assaults, hostage situations, student riots, trespassers, violent intruders, shootings or other threats that require school lockdowns. Safety plans must be made carefully as it may be appropriate to have a plan that covers a span of 2-3 days in the event that a child is unable to be reunited with family.

A safe school environment is essential to well-being and families, schools and communities and decision makers need information to help them strategically coordinate a framework to make policies, programmes and practices comprehensive and coordinated to promote student health and school safety. It seems that disaster planning is more often than not overlooked in IEPs (Individualised Education Plans). Evacuation planning and emergency preparedness need much more attention at the individual student level. Students with impaired vision will have specific challenges in disasters that can include missing visual cues, such as new obstructions that can occur during an emergency. And those with multiple disabilities require more options or alternatives in the development of emergency and evacuation plans.

“The gaps in school disaster planning for children with disabilities are huge” (Boon et al., 2011, p. 233). It is reported that 22% of U.S. schools do not have disaster plan provisions for students with special needs (Council on School Health, 2008). The number of schools with and without such provisions in other parts of the world, including Australia and New Zealand is unknown. Strategies to enhance and individualise disaster planning for specific disability related needs of

a child include an Individualised Evacuation Emergency Plan (IEEP) (Asher & Pollak, 2009); a lockdown plan (IELP) (Clarke, Embury, Jones, & Yssel, 2014) and evacuation and sheltering plan (IESP) (Brunner & Lewis, 2004). Such attention to safety planning could save lives of individual students living with disabilities and their classmates, teachers and rescuers.

## **METHOD**

A systemic approach to identifying literature has been utilised with a 12-step process outlined by Kable, Pich and Maslin-Prothero (2012). Papers were obtained through the following databases: Discover (Massey University's Library Discovery Layer searches multiple databases, including Web of Science, Web of Knowledge and PsychInfo) and Scopus. Google Scholar was used extensively in early exploration of the topics, but was determined to be too imprecise to accurately identify specific numbers of articles that met the set criteria. Searches were conducted in early 2014 and updated in August 2014. Included are original research studies and guidelines that were relevant to the need for individualised emergency preparation and disaster planning for school-aged children with disabilities. English language articles, published 2004-2014, available through Massey University in full-text were included in this review. Previously published systematic and literature reviews were excluded, as were any articles with a primary focus on adult or community emergency planning. The following search terms were used to search the databases with the titles, abstracts and key words and full text, in some instances, searched. Truncation was used to ensure all word variance was captured and thereby, no important research was excluded from consideration.

Search words and their variations were narrowed to the following:

- School
- Safety plan
- Disaster
- Disability
- IEP
- Vision impairment

Table 1 provides an overview of the search process for each database. The key findings of 12 papers related to individualised school disaster planning for children with impaired vision are summarised in Table 2.

## **RESULTS**

Initial searches found extensive literature related to shootings, terrorism, drugs, violence and bullying. Some studies related to fires. Few studies emerged relating to natural disaster planning or to individualised planning for those with disabilities. Disaster research on vulnerable populations has two emerging tracks: 1) children and 2) adults with disabilities. Little empirical work emerged that examines the intersection of children with disabilities in disasters. Peek and Stough (2010) noted that both children and adults with disabilities are often excluded from emergency planning and disaster response professionals assume parents will protect children in disasters, even though children are often away from families, when in school, with friends or being cared for by others, and emergency management agencies often neglect the needs of those with disabilities in their planning.

Murray (2011) concurs that the issues for children with disabilities in disaster preparedness are neglected: “Disaster preparedness experts have overlooked the unique needs of children with special needs and disabilities when developing emergency evacuation plans and policies, leaving children and families ill-prepared for a catastrophic emergency” (p. 227). Boon et al., (2012) explain that planning ahead, planning for particular disasters, and planning for emotional and educational support after a disaster are all important components of managing potential life-threatening disasters.

### **SCHOOL SAFETY PLANNING IN GENERAL**

Studies and guides for planning for disaster and school crisis planning were identified that were designed to promote and protect the health of individuals, families and communities (Geiger, Firsing, Beric, & Rogers, 2013). Much of this literature reflects on U.S. legislation designed to mandate drills, protocols and plans in schools.

Heath, Ryan, Dean, and Bingham (2007) provided a comprehensive historical overview of U.S. school disasters and how legislation has emerged to protect children in the wake of disasters. Fires, explosions, a school bus hijacking, earthquakes, shootings and terrorism events from 1851-2006 gave rise to various mandates for fire drills, duck and cover drills, Red Cross training specific to children’s needs, the development of associations of school psychologists to support children, guidelines for the prevention of tragedies in schools, resource guides for safe schools, national conferences on school safety, and publication of government documents on school crises. Current U.S. education legislation (No Child Left Behind) states that each student has the right to learn in a safe environment (Heath et al., 2007 p. 216). Although disability was not mentioned in this article by Heath et al. it surely stands to reason that some students will require more attention in planning for safe schools.

### **SAFETY PLANNING AND THE NEEDS OF STUDENTS WITH DISABILITIES**

Children with disabilities are particularly vulnerable during emergencies. Research shows that the support disabled people receive from others is often interrupted during disasters (NZ Ministry of Education, 2010). The following factors make people with disabilities more vulnerable during an emergency situation:

- They tend to be invisible in emergency systems.
- They may not be able to comprehend the disaster and its consequences.
- They may be excluded from the disaster response efforts and may become particularly affected by changes in terrain resulting from the disaster.
- He or she may lose the ability to use a mobility aid and, as a result, lose access to a safe location, adequate shelter, water, sanitation and other services.
- They may experience emotional distress that has long-term consequences.
- He or she may misinterpret the situation.
- They may have communication difficulties, making them more vulnerable in disaster situations (NZ Ministry of Education, 2010, p. 28).

In recognition of the increased risks, the U.S. National Fire Protection Association (2007) has created a personal emergency evacuation planning tool for school students with disabilities. Here they present the argument for IEPs to contain plans for emergencies in schools.

Schools are required by federal law to develop “individual educational programs” (IEPs) that evaluate and consider many facets of a child’s condition in order to ensure that an equal education is provided to every student, regardless of disabilities. A portion of the IEP is to provide for related services. While not explicitly stated, the related services component must consider the particular needs of the child to ensure his or her safety during a building emergency that includes an evacuation. (p. 4)

Boon, Brown, and Pagliano (2014) conducted a postal survey with Australian schools and found that the needs of students with disabilities have not been adequately reflected in school emergency plans. They noted that children with disabilities are among the most vulnerable to disasters. Anticipatory, acute and recovery phases of emergencies were explored for five disability types (physical / mobility impairment; chronic conditions / special needs; sensory impairments; emotional /behavioural disability; and cognitive impairment). With an 18% response rate to their survey, the study could be criticised, yet the recommendations appear sound. They recommended that safety plans be individualised and that drills be practiced. Authors recommended that schools be represented in local Disaster Management Groups.

Black (2004b) noted that “schools should attend to an often overlooked item—the evacuation of severely impaired children, such as those in wheelchairs and on ventilators, and children who don’t speak fluent English” (p. 38). Black goes on to provide a “grab and go” emergency item list for teachers and administrators that includes keys with identification to all school doors; floor plans that identify exits, telephones and communication devices; staff roster that indicates those with first aid training, etc. (2004a).

Clarke et al. (2014) reflect: “After considering the needs of the school as a whole, special education teachers should focus on individual student learning needs and how they can teach students to be safe from a variety of dangers, including natural disasters and school violence” (p. 171). The authors propose a number of plans, including IELPs (individualised emergency lockdown plans) and skill assessments.

Brunner and Lewis (2004) state that “every student with a disability who could be adversely affected during an evacuation or in-place sheltering event should have an IESP. The IESP [evacuation and sheltering plan] should be an addendum to the school’s crisis management plan” (p. 65).

Much more attention needs to be directed at the needs of children with disabilities in the aftermath of a disaster. Life-threatening consequences can arise from separation from parents and caregivers, illness and disease, malnutrition and abuse, stigma, social distancing and purposeful abandonment (Peek & Stough, 2010), making careful disaster planning for disabled children in schools crucial.

## **SAFETY PLANNING SPECIFIC TO STUDENTS WITH IMPAIRED VISION**

Very little literature seems to be available addressing the specific disaster planning needs of children in schools with impaired vision. In fact, no empirical studies were found related to the specific needs of blind children, or those with low vision, during a crisis or natural disaster. What are available are some very practical suggestions (see Burke, 2010; Clarke et al., 2014 and Geiger et al., 2013 for examples). Although these have not all been tested, the guidelines could provide parents, teachers and schools with some excellent resources for emergency preparedness.

Clarke et al. (2014) identified seven particular impairments and the specific issues that may need to be met in a crisis. For those with impaired vision she suggests the following, in relation to school lockdowns,

Multiple opportunities to explore the facility when it is in lockdown mode to understand which exits might not be available. Strobe lights or vibrating pagers to supplement audible alarms, Braille signage or audible directorial signage, pre-recorded directions on a CD (p. 174).

A model emergency plan for students with special needs from a California county school district (Burke, 2010) outlined detailed plans for emergency preparedness, emergency response and emergency recovery. It is a comprehensive document, complete with checklists, sample information forms, sample medical card, 72-hour medication forms and online resources.

Specific factors named to reduce risk in emergencies for blind students are “guidance from a sighted person” (p. 8). Those with visual impairments may have to depend on others to lead them to safety during a disaster and may be reluctant to leave familiar surroundings. Employ Braille signage or audible directions for students who are blind or have low vision. Emergency back-up lighting systems, especially in stairwells and other dark areas, will benefit those students with limited visual acuity. Mark emergency supplies with large print or Braille. Students should know where the nearest telephones and alarm boxes are located and how to describe their location. Preparedness kits should include:

- extra folding white cane,
- heavy gloves for feeling the way over glass or debris,
- coloured poncho worn for visibility, and
- comfort items (p.18).

Burke (2010) provided detailed suggestions for announcing the emergency for those who are vision impaired, suggesting that a helper

- touch the person on the elbow gently,
- identify yourself quickly and explain the situation,
- ask if the individual has any preferences regarding how to be guided,
- clearly describe where you are going and any approaching obstacles or protruding objects which will require a change in your walking path or pattern, and
- be protective of your space as there may be many people using the same route to evacuate (p. 22-23).

Burke (2010) then generally addressed considerations for all students with disabilities during evacuations and recovery.

Although designed for workplaces and not for schools, the U.S. National Fire Protection Association (2007) has produced an emergency evacuation planning guide for people with disabilities. It has a chapter dedicated to the needs of those with vision impairments. Here, a new technology in fire safety is introduced. “Directional sound” alarm systems communicate the location of exits using broadband noise and varying tones and intensities that offer cues for finding the way out). Such systems could be used effectively in schools. Murray (2011) identifies that children with impaired vision will need the opportunity to share feelings, have questions answered and have materials presented to them appropriately in relation to disaster planning.

Children with blindness and other impairments, including autism and communication issues are frequently at risk for “fleeing”, “bolting”, “eloping” or “running” and this can happen during times of stress, including during emergencies or disasters. There are toolkits available, for example, from the National Autism Association, <http://nationalautismassociation.org/docs/BigRedSafetyToolkit.pdf> to help schools and families make a plan to prevent wandering and to find a child who has disappeared. The first step listed is to Call 111 (or appropriate emergency number) and search nearby water first. A sample IEP letter is available in this toolkit that can help schools and families work together to create behaviour plans and set up parental notification systems. These toolkits, however, seem targeted to individual emergencies, and not to assist an individual when a whole school, classroom or community is experiencing an emergency or disaster.

## RECOMMENDATIONS

This systematic review of scholarly research has revealed very few empirical studies on the topic of disaster preparedness in schools for children with impaired vision. And no empirical studies were found relating to individualising disaster plans for students. However, gleaned from both academic and more general sources the following recommendations can be made to practically promote inclusive disaster planning for students with and without disabilities in schools:

- Review emergency plans annually.
- Implement training in schools and for those responsible for children during transit to and from school and in before and after-school care.
- Implement training for school nurses who may need a better understanding of the longer term needs of specific students with disabilities should a disaster last several days.
- Consider enlisting the expertise of Occupational Therapists, paediatric healthcare professionals and others who may be ideally suited to lead schools in disaster plan development.
- Practice drills in schools.
- Set up communication systems within schools, with parents and to the wider community (including law enforcement, fire safety, public health, emergency services, paediatric and mental health professionals)
- Teach children about safety, well-being and natural disaster preparedness.

- Identify those who need an individualised plan for evacuation, sheltering lockdown or other disaster situation (not necessarily just those with IEPs) and be sure to include evacuation planning for severely disabled children.
- Ensure the school has supplies needed for up to 72 hours (food, medication, water) and prepared crisis response kits.
- Ensure children with individualised plans have a three-day supply of medications, medical equipment, identification and tools they need for communication at hand in case of emergency.
- Consider whether debris might obstruct the evacuation of staff and students, generally and those with disabilities specifically and plan alternative emergency shelter locations.
- Identify alternative, accessible, safe shelter locations and communicate these locations to emergency responders.
- Because many students who are blind are also hearing impaired, consider providing basic sign language training to designated school staff. (National Clearinghouse for Educational Facilities, 2008)
- Set up traumatic incident support teams.
- Have a plan for reunification with families for children with disabilities.
- Consider what training is needed to assist students with disabilities who may become upset when routines are disrupted.
- Add a simple question at the end of each individualised education program (IEP) meeting that simply asks “Is there a need for a specific plan for this student’s individual needs if there were a crisis in the building?” (Clarke, 2014, p. 140).
- Recognise that advanced planning for acute phases of a disaster as well as for post disaster education and support are needed.

## CONCLUSION

After recent earthquakes in our region I attempted to get an individualised safety plan in place for my vision impaired son who also has additional learning needs, and recently started school. I was surprised to find no templates for individual safety plans available from the Ministry of Education, from the school, nor from the blindness agencies that provide services to my son. Informal discussion with other parents, with teachers and in social media revealed that in some instances physiotherapists assess student abilities and create emergency evacuation plans that all of the child’s teachers and teacher’s aides have access to (K. Henry, personal communication, July 14, 2014). Other parents reported that an aide helps during fire, tornado or other emergency drills. The teacher is then to ensure that the child is accounted for at the designated safe place. Bus safety plans have been devised too (S. White, personal communication, July 14, 2014). Another parent reported that although a plan is supposed to be in place, she gets vague answers when she asks about the details of a plan (G. Bearsley, personal communication, August 11, 2014). As a result of this evident lack of consistent safety planning, I intended to research scholarly studies on the subject. No empirical research was available that met the criteria of being related to individualised disaster planning in schools for children with disabilities. And so the search expanded to include policy documents, guides and sample emergency plans. Although disaster research is proliferating, very little literature addresses the needs of disabled children in schools. Some good models, mostly from the U.S., are available that could be adapted to the needs of vision impaired children and some good practical suggestions for disaster planning can be found in the literature. Research must be

undertaken, throughout the world, to help develop scholarly, empirical evidence and best practices in this area, in order to help schools and to save the lives of children in disasters.

No matter how well prepared an individual school may be, or how detailed a child's individual safety plan, a school's emergency preparation and disaster planning is most effective if a whole community approach to supporting schools is encouraged. Local law enforcement, first responders and entire communities can be involved and know the situation of the school. Likewise, individual children will likely be less vulnerable if they are integrated into their communities and schools. NZ research has shown that adults with impaired vision are less vulnerable in a disaster if they have built social supports and are well integrated into their local communities (Good, Phibbs, Williamson, & Chambers, 2012; Phibbs, Woodbury, Williamson, & Good, 2012). It is likely this is true for children too.

Having a child integrated into their community can be not only life-enhancing, but life-saving. Experience from the Great East Japan Earthquakes showed that those most helpful to severely disabled children were those who had day-to-day contact with them prior to the disasters:

Preparations for a disaster are connected to peace of mind in daily life. This is not something that can be created by medical treatment, welfare, government administrations and the family individually on their own; it is something that each part works together to build. Creating a support network from this normal daily life is the real disaster countermeasure (Tanaka, 2013, p. 213).

“Raising children as part of the local communities is the biggest factor in saving them from disasters” (Tanaka, 2013, p. 209).

**Table 1**  
Search Results 2004-2013

Data Base	Discover (searches multiple databases including Web of Knowledge, Web of Science and PsychInfo)		Scopus	
	# retrieved (full text search)	Table 2 article ID	# retrieved (all field search)	Table 2 article ID
School, “safety plan**”	184 (3060)	#2, 3, 7, 10	25 (908)	#10
School, “safety plan**”, disaster	3 (523)	#10	2 (72)	#1, 9, 10
School, “safety plan**”, disaster, disabilit*	0 (226)	#4, 5, 6, 11,12	0 (7)	#1
School, “safety plan**”, IEP	1 (11)	#8	0 (0)	
School, “safety plan**” “vision impair**”	0 (0)		0 (0)	

**Table 2**

Summary of Articles: School disaster planning for children with disabilities 2004-2014

	<b>Authors, year, country</b>	<b>Method/design</b>	<b>Sample size /scope of project</b>	<b>Comments/key findings related to disaster planning for children with disabilities in schools</b>
1	Asher & Pollak (2009) USA	Case examples and evaluation of IEEP (individualised emergency evacuation plan) forms	7 case examples	OT expertise is ideally suited to assume leadership within school teams in the development of IEEPs. A framework is provided for reliable emergency evacuation plans that consider the safety of students with special needs.
2	Black (2004a) USA	Examination of school attack protection policies	Three categories of plans identified: risk reduction/prevention and intervention plans; response plans; recovery plans	Effective crisis planning requires planning at both a macro- and micro-level. Current debriefing protocols are questioned. Schools often overlook evacuation planning for severely disabled children.
3	Black (2004b) USA	Examination of safety laws	Three categories of plans revisited; risk reduction; response and recovery.	Crisis-response kit suggestions provided.
4	Boon, Brown & Pagliano (2014) Australia	Postal survey with schools	80 survey responses from schools. Descriptive statistics of responses.	The needs of students with disabilities are not adequately reflected in school emergency plans. These plans must be individualised and practiced. Most schools were not represented in a local Disaster Management Group.
5	Boon, Pagliano, Brown & Tsey (2012) Australia	Content analysis of policies of Australian State Education Departments and their policies, guidelines and frameworks and how inclusive disaster plans are for students with disabilities.	132 documents analysed.	Consistency needed across States and countries to ensure effective and equitable emergency management policies. Disruption to schooling can increase disaster related trauma experienced by children with disabilities. Advanced planning, planning for the acute phase of a disaster and planning for educational provision post-disaster, specific to needs of disabled students are recommended.

**Table 2 (cont.)**

6	Brunner & Lewis (2004) USA	Plan development	Proposal of an IESP, an individualised evacuation and sheltering plan, specifically for school children with disabilities.	Authors provide lists of considerations for evacuation plans. Authors highlight the importance of developing and practicing evacuation and sheltering plans.
7	Burke (2010) USA	Plan proposal	Plan is designed to meet the mandates of 3 Federal Laws.	A plan for school emergencies and disasters is proposed. Detailed ideas for supporting blind and deaf/blind students are provided.
8	Clarke, Embury, Jones & Yssel (2014) USA	Development of a teacher's guide to supporting students with disabilities during school crises.	Sample emergency and lockdown plans and procedural checklist proposed.	Special education teachers must know and include best practices to assist students with basic survival skills. Students can learn what to do in fires, tornadoes, or lockdowns. Community planning must include development of IELPs (lockdown plans) explicit instruction, practice and annual review of crisis plans.
9	Geiger, Firsing, Beric & Rogers (2013) USA	Five-step guide presented for emergency readiness.	Guide developed from Coalition of National Health Education Organizations.	Promoting and protecting the health of individuals, families and communities and providing education and services reduce premature deaths and disability.
10	Heath, Ryan, Dean & Bingham (2007) USA	Historical review of school disasters and evaluation school crisis planning.	50 U.S. State policies evaluated. International, national, community and school-related disasters highlighted.	32 of 50 States have legislated mandates requiring safety plans that guarantee each child has an education in a safe setting. No discussion of individualized plans.

**Table 2 (cont.)**

11	Murray, J.S. (2011) USA	Research based answers to practice based questions posed by journal readers	Response to question: What considerations should be given to children with special healthcare needs and disabilities in the context of disaster preparedness?	Paediatric healthcare professionals can minimize the effects of disasters on children with disabilities by developing specific continuity of care mechanisms such as an EIF (emergency information form).
12	Peek & Stough (2010). USA	Theoretically informed critical review	Exploration of two disaster research tracks: children and adults with disabilities. Underpinned by social vulnerability theory.	Children with disabilities are physically, psychologically and educationally vulnerable in disasters. Disasters are not just transient, but enduring risk factors for children with disabilities.

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# Focus group methodology: Procedures to maximise stakeholder talk about the preparation of young people with vision impairment for post-school life

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## ABSTRACT

This Queensland study investigated experiences that facilitate and hinder the transition from school to post-school life for young people with vision impairment. No specific tool existed to capture the experiences of school staff and parents involved in preparing these adolescents for post-school life. This article offers a rationale for using focus group discussions, then details the procedures that were developed and used (i.e. moderator guides) to gather data from two separate focus group discussions with the following stakeholders: (a) school staff working with adolescents with vision impairment and (b) parents of adolescents with vision impairment enrolled in Queensland secondary schools. The resultant focus group discussion protocols (e.g., moderator script and key questions) could be useful in facilitating group discussions with similar personnel across Australia, and, internationally.

**Key words:** *Focus group discussion methodology, focus group procedures, moderator guide, school-to-post-school transition, post-school life, adolescents and young people with vision impairment.*

## INTRODUCTION

During adolescence, increased attention is paid to the transition of young people to post-school life (Galambos & Leadbeater, 2000), almost certainly because this transition is recognised as one of life's most significant transitions (McBroom & Tedder, 1993; Wolffe, 2000; Wong, 2004). Despite the design and implementation of individual transition plans, support from specialist staff, and provision of disability-specific curriculum, available research indicates that young people with vision impairment continue to experience work and social limitations in their post-school lives (Brown, 2009). For young people with vision impairment, the transition from high school to life beyond school is challenging and complex (Konarska, 2007; Wong & Dunn, 1998). The nature of vision impairment itself may tend to exacerbate the discrepancies and/or difficulties experienced at this crucial time (Tuttle & Tuttle, 2004).

Tuttle and Ferrell (1995) suggest that people with vision impairment have “the right to a complete and satisfying life as . . . fully participating members of society” (p. 489). Indeed, many of young people with vision impairment have the capacity to participate in and contribute to society. However, most continue to experience unemployment and underemployment in their post-school lives (Crudden & McBroom, 1999; Kinash, 2006; Kirchner & Smith, 2005). Notwithstanding these discouraging outcomes, only a small number of studies have examined

how adolescents with vision impairment are prepared for post-school life, how they transition, and how they take part in post-school life (see Brown, 2009).

### **PERSPECTIVES OF KEY STAKEHOLDERS**

This south-east Queensland study was the first Australian study to investigate the transition experiences of young people with vision impairment, school staff who worked closely with them, and their parents (Brown, 2013a). It aimed at determining the individual perspectives (Mertens, 2005) of these young people transitioning from secondary school to post-school life. Capturing the voices of adolescents and young adults with vision impairment was central to the study's aims. As previously outlined (see Brown, 2013b), an interview tool was created to capture the transition experiences of these young people.

### **PERSPECTIVES OF OTHER STAKEHOLDERS**

According to Patton (1999), family involvement in transition is crucial. Although the education of children and young people with vision impairment is a shared endeavour between schools and families, only a handful of studies have incorporated the views of adolescents with vision impairment and their educational team (e.g., McBroom, Tedder, & Ji, 1991). Children moving from adolescence into adulthood present a challenge for many parents as they experience their young adult balancing independence and dependence (Centre for Educational Research and Innovation, 1986). Although parents are heavily involved in the post-school lives of their children, little research has been conducted "on the extent to which parents of youths with [vision] impairments are involved in the transition process" (Nagle, 2001, p. 734). Therefore, in addition to capturing the perspectives of young people with vision impairment, the voices of school staff and parents involved in the education and post-school preparation for these young people were also valuable.

The study gathered views from school staff and parent stakeholders to identify influences that facilitate and hinder transition, and to gauge suggestions to enhance the school-to-post-school transition. Similar to the difficulties encountered sourcing an interview tool to collect data with young people (see Brown, 2013b), no focus group discussion procedure existed to gather the views from staff and parent stakeholders involved in this critical transition. Hence, this article describes specific processes used to design and conduct two separate focus group discussions, including creating moderator scripts and determining key questions to focus and stimulate talk during each of the group discussions.

### **RATIONALE FOR SELECTING FOCUS GROUP DISCUSSIONS**

Focus group discussions (viz., Greenbaum, 2000; Vaughn, Schumm, & Sinagub, 1996) were the most suitable data collection method to efficiently gather collective opinions and experiences from school staff and parents. This collective activity targeted the groups' perspective on set issues or questions (Litosseliti, 2003). Focus groups have been viewed favourably by potential participants because they do not require specific skills, are sociable, and have a set time limit (Bloor, Frankland, Thomas, & Robson, 2001). The rationale for facilitating a focus group discussion with school staff and parents was strong. Focus groups have been widely accepted and increasingly used as a data collection method (Gay, Mills, & Airasian, 2009; Kvale & Brinkmann, 2009). Supplementing one-on-one interview data previously collected from young

people with vision impairment (Fontana & Prokos, 2007; Puchta & Potter, 2004), focus group discussions suited the nature of the study where a small professional group were informally interviewed by a moderator (Litosseliti, 2003; Neuman, 2006). Through collective conversations (Kamberelis & Dimitriadis, 2005), individual views and experiences of staff and parents were explored (Litosseliti, 2003). Finally, group synergy in the strong social context created (Finch & Lewis, 2003) stimulated shared discussions and emotional and spontaneous views (Kamberelis & Dimitriadis, 2005). Facilitating one discussion with each of the stakeholder groups collected data more quickly than face-to-face interviews (Flick, 2009; Fontana & Prokos, 2007), meeting the needs participant group in a single session.

### **FOCUS GROUP DISCUSSIONS WITH SCHOOL STAFF AND PARENTS**

Through two separate discussions, school staff members and parents were provided with opportunity to offer their perspectives using their own words. In addition, interviewing staff and parents through group discussions clearly showed the researcher what each group considered to be contentious or significant (Minichiello, Aroni, Timewell, & Alexander, 1995) in preparing young people with vision impairment for the transition from secondary school to post-school life.

Numerous considerations are involved in setting up and facilitating focus group discussions (Greenbaum, 2000; Vaughn et al., 1996). Determining appropriate numbers of participants was important for this study because participant numbers have affected the nature of discussions, and in turn, the success of a focus group discussion (Vaughn et al., 1996). Recommended participant numbers for focus groups are varied, ranging from 4 to 8 participants (Fraenkel & Wallen, 2006) through to 12 to 15 participants (Babbie, 2007). Given the low incidence of personnel working in the field, the researcher was attentive to the practical possibility of needing to be an active, yet non-directive, moderator and was mindful of the small samples available (Punch, 2005).

### **PROCEDURES FOR THE SCHOOL STAFF FOCUS GROUP DISCUSSION**

Preparation for the focus group discussion included arranging the room to minimise inhibition in a non-evaluative and non-threatening environment (Minichiello et al., 2008). As Figure 1 illustrates, the room's physical arrangement ensured that participants could see each other. The position of the researcher also minimised domination of the discussion. The room was also very quiet to aid recording (Green & Hart, 1999).

**Figure 1**

Physical arrangement of the room for the school staff focus group discussion

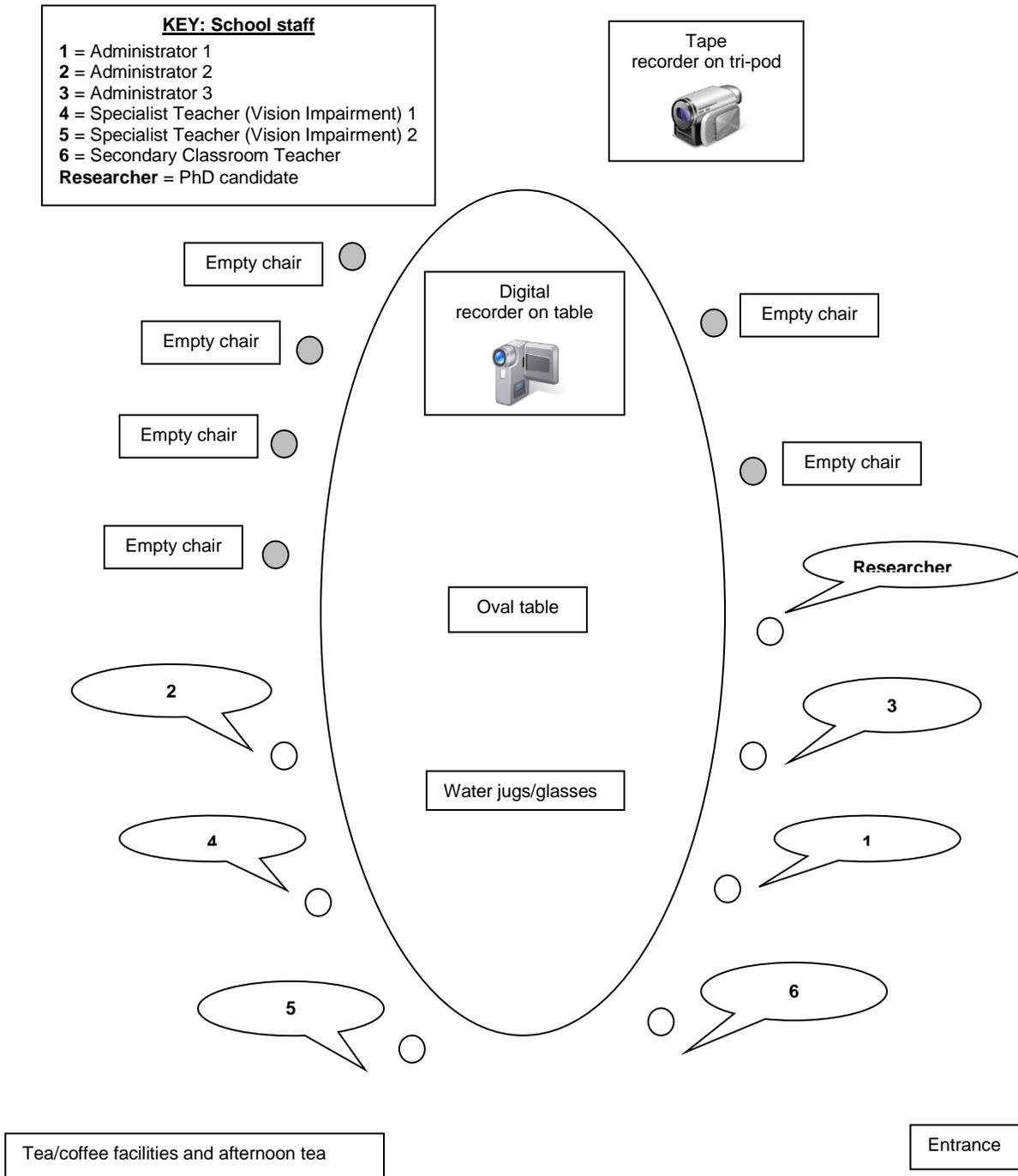


Figure 2 presents the overview of the focus group discussion created that incorporated Vaughn and colleagues' (1996) description of focus group discussions. Upon arrival, school staff participants were provided with a copy of this overview.

**Figure 2**

Overview of focus group discussion provided to school staff participants

<p>1) WARM-UP Introductions</p> <p>2) CLARIFICATION OF TERMS Adolescents/Young people Vision Impairment Specialist Teacher ECC (Expanded Core Curriculum)</p> <p>3) DISCUSSION</p> <p>4) WRAP-UP Summarise key ideas</p> <p>5) MEMBER CHECK Verify how participants feel about certain issues</p> <p>6) CLOSING STATEMENTS Anonymity What next? Thank you</p>
---

A researcher-designed demographic form (see Figure 3) and a sheet including six key questions with space for participants to record initial responses (see Figure 4) were also handed to participants once they were settled. The majority of moderator guides have comprised less than 12 questions (Stewart & Shamdasani, 1990). Therefore, this study's moderator guide for the school staff discussion included a list of six questions in full sentences (Krueger, 1994), followed by an additional prompt to encourage further responses to the study's three research questions. The set questions aimed to encourage group interaction, and the prompts were used to exhaust further information not previously covered in free discussion (Bloor et al., 2001). The key questions created for the focus group discussion were simple and unstructured. At the same time, they were purposefully pre-determined from the study's research questions, open-ended, and sequenced (Litosseliti, 2003). Ongoing recruitment difficulties within this low incidence area did not permit key questions to be piloted.

**Figure 3**

Demographic data form for school staff participants

**Background information – Staff working with students with vision impairment**

Gender: Please circle one option

Male	Female
------	--------

Age (years): Please circle one option

21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66+
-------	-------	-------	-------	-------	-------	-------	-------	-------	-----

Name of school/setting currently based at: \_\_\_\_\_

Current position: Please circle one option

Principal	HOSES	O&M teacher
Deputy Principal	Specialist teacher (VI)	Classroom teacher
Special Education teacher (not VI-qualified)	Other: _____	

Duration working in current position: \_\_\_\_\_

Current employment status: Please circle one option

Full-time	Part-time (Specify fraction - e.g. 0.2: _____ )
-----------	---

Teaching qualification/s & year/s attained:

\_\_\_\_\_

\_\_\_\_\_

Education-related positions held (please include duration and setting):

\_\_\_\_\_

\_\_\_\_\_

Specific VI positions held:

\_\_\_\_\_

Total teaching experience (years): \_\_\_\_\_

Total experience teaching student/s with VI (years):

Early intervention \_\_\_\_\_, Primary \_\_\_\_\_, Secondary \_\_\_\_\_, Special School \_\_\_\_\_.

Number of students with VI (secondary school only) you currently teach/case manage: \_\_\_\_\_

Number of Braille users: \_\_\_\_\_ Number of print users: \_\_\_\_\_ Other: \_\_\_\_\_

Type of contact you have with young adults (VI), when they leave school, and their life pathways:

\_\_\_\_\_

\_\_\_\_\_

**Figure 4**

Six key questions for school staff participants to record their initial responses

1. As teachers and administrators, what's your role in the transition from school to adult life for students with vision impairment?
2. How do you assist young people with vision impairment to prepare and plan for adult life?
3. What school experiences facilitate success in adult life for students with vision impairment?
4. What school experiences hinder success in adult life for students with vision impairment?
5. How could transition from school to post-school life be enhanced for adolescents with vision impairment?
6. Anything else you'd like to talk about?

The researcher introduced participants to the overview of the group discussion (Berg, 2001; Finch & Lewis, 2003) by following a detailed researcher-designed moderator guide (see Figure 5). Facilitating the focus group using a guide established the agenda for discussion and provided a structure for participants (Stewart & Shamdasani, 1990). The description of the moderator's guide followed Vaughn and colleagues' (1996) eight components, including "(a) introduction, (b) warm-up, (c) clarification of terms, (d) easy and non-threatening questions, (e) more difficult questions, (f) wrap-up, (g) member check, and (h) closing statements" (p. 41). In line with the moderator's guide, the session started with a statement of the purpose of the discussion and research activities conducted to date. Guidelines for the group discussion were pointed out, and ethical issues of confidentiality and anonymity were emphasised (Vaughn et al., 1996). Participants were reminded that the focus group discussion would be video-recorded for transcription purposes and erased immediately following transcription. Importance was placed on the fact that the focus group aimed "not to reach consensus about, or solutions to, the issues discussed, but to bring forth different viewpoints on an issue" (Kvale, 2007, p. 72).

**Figure 5**

Moderator guide for the school staff focus group discussion

**INTRODUCTION**

**WELCOME** [Introduce myself (facilitator & researcher)]

Welcome to [location] to participate in my research project *Understanding the life pathways of young people with vision impairment: A south-east Queensland case study*. You have been selected to participate because of your experience teaching and working with students with vision impairment. Your point of view is extremely valuable and important. As a teacher myself, I am aware of the demands on teachers and administrators, especially at this time of year, and I appreciate your contribution to today's research activity – a focus group discussion.

Figure 5 (cont.)

**\*If you have not completed the “Background Information” sheet/consent form, please do so now; at the end of the discussion, I will collect the yellow sheet, and you can keep the white sheet.**

#### STATEMENT OF THE PURPOSE OF THE DISCUSSION

To date, I've worked with current adolescents with vision impairment (VI) across three secondary schools (journaling – 1-month and one-on-one interviews - 1 hour each). I have also recently interviewed five past students with VI (who have graduated within the last 10 years) from secondary schools in south-east Queensland. Today's discussion provides you [school staff] with the opportunity to share your perspectives on young people with VI and their transition to life after school. Focus groups are designed to “engage[e] a small number of people in an informal group discussion . . . ‘focused’ around a particular topic or set of issues” (Wilkinson, 2004, p. 177). The purpose of this focus group is to determine your ideas and opinions about the school and life experiences of young people with vision impairment. Additionally, you will have opportunity to discuss aspects which hinder and enhance the transition to post-school life for young people who are blind or vision impaired. “The aim of the focus group is not to reach consensus about, or solutions to, the issues discussed, but to bring forth different viewpoints on an issue” (Kvale, 2007, p. 2). Therefore, your input is essential.

#### GUIDELINES TO FOLLOWING DURING THE DISCUSSION

- Refreshments are available (tea, coffee, biscuits etc.) at any time during today's discussion; please feel free to help yourself.
- Do not say what you think I want to hear/is the right thing to say/what I won't be offended by
- There are no wrong answers – your participation and opinions are valid and valued.
- As you're aware, the session is audio & video recorded; I'm the only person who listens to it/watches it, for transcription & data analysis purposes (then it is deleted).
- Your names will not be reported in any research findings and I “ask that you refrain from discussing the comments of group members and that you respect the right of each member to remain anonymous” (Vaughn et al., 1996, p. 47).
- “You do not have to speak in a particular order; when you have something to say, please do so . . . please do not speak while someone else is speaking” (adapted from Vaughn et al., 1996, p. 42).
- “Remember that there are a number of people in the group and that it is important that [I] obtain the point of view from each of you” (adapted from Vaughn et al., 1996, p. 42)
- “You do not need to agree with what everyone says, but please state your point of view without many negative comments about others' viewpoints” (adapted from Vaughn et al., 1996, p. 42).
- \*\*After I read out the first question, you will have 1-2 minutes to jot down your key ideas in dot point/note form about what you'd like to say/contribute; after 1-2 mins, discussion will be invited for that question for 10 mins; then, the same process will occur for each of the remaining questions.
- “With the limited 1-hour timeframe, I may need to stop the discussion and redirect the group” (Vaughn et al., 1996, p. 42).

**Figure 5 (cont.)**

PROCESS IN BRIEF: warm-up, clarification of terms, establish responses, wrap-up, member check, closing statements.

***Any questions before we move on?***

WARM-UP

SET THE TONE

As you are aware, each of you has experience working with adolescents with vision impairment, whether that be teaching subjects in the regular school, being an administrator of services provided to students with VI, or providing specialised teaching and support for students vision impairment (e.g., teaching braille, the Expanded Core Curriculum (ECC) etc.).

SET PARTICIPANTS AT EASE

Briefly (one at a time), please introduce yourself (Litosseliti, 2003), tell us how long you have been teaching, your current role, and the number of students you currently teach (VI)?

CLARIFICATION OF TERMS

ESTABLISH THE KNOWLEDGE BASE THROUGH KEY QUESTIONS

What do the terms “Adolescents/Young people/Teenager”/“Vision Impairment”/“Specialist Teacher”/“Orientation & Mobility (O&M) teacher”/“ECC” mean to you?

PROVIDE DEFINITIONS OF KEY TERMS

For the purpose of this discussion . . .

- “adolescents/young people/teenager” refers to students who are secondary-school age
- “vision impairment” encompasses all students who have a verified vision impairment, whether they are blind or have low vision (encompasses e.g., braille users and print users)
- “specialist teacher” refers to teachers with a qualification in vision impairment who specifically teach students ascertained/profiled with vision impairment
- “O&M teacher” refers to teachers who “assist in the development of spatial concepts, O&M techniques, long cane skills, & transition programs . . . within the home, school and community environments” (The State of Queensland - Department of Education and Training, 2007, p. 1).
- “ECC” refers to the disability-specific curriculum for students with VI; consists of 9 areas including: compensatory or functional academic skills, including communication modes, orientation and mobility, social interaction skills, independent living skills, recreation and leisure skills, career education, use of assistive technology, sensory efficiency skills, self-determination.

***Any questions before we start the discussion?***

Figure 5 (cont.)

**ESTABLISH/ENGAGE DISCUSSION & PERSPECTIVES****Key questions:**

1. As teachers and administrators, what's your role in the transition from school to adult life for students with vision impairment?
2. How do you assist young people with vision impairment to prepare and plan for adult life?
3. What school experiences facilitate success in adult life for students with vision impairment?
4. What school experiences hinder success in adult life for students with vision impairment?
5. How could transition from school to post-school life be enhanced for adolescents with vision impairment?

*We've done the set questions. Now, I'd like you to take a minute to brainstorm anything else we want to be talking about.*

6. Anything else you'd like to talk about?

*So, now you can share your voice, as administrators and/or teachers or simply as interested individuals about young people with VI. Let's look at this study's research questions at the top of the white page. Research Question (RQ) 1 – Is there anything else you'd like to contribute or comment on? RQ2 – Is there anything else you'd like to contribute or comment on? RQ3 – Is there anything else you'd like to contribute or comment on?*

**Questions/prompts to ask the group after responses for each question:**

"Tell me about . . ." (Litosseliti, 2007)

"Are you happy with your responses for this item?"

"Which aspects of your responses need to be refined/changed?"

"Have you considered . . . ?"

"\_\_\_\_\_, we haven't heard your opinion about . . ."

"Can you give us an example of \_\_\_\_\_"

"What do you think about . . . ?"

"Could you say more about . . . ?"

"Can you think of any alternatives?" (Krueger, 1994)

**WRAP-UP****IDENTIFY AND ORGANISE THE MAJOR THEMES FROM THE PARTICIPANT'S RESPONSES**

(Key ideas – summarise)

**Figure 5 (cont.)**

ENSURE THAT ANY CONVERSATIONAL POINTS NOT COMPLETED ARE MENTIONED  
(Several ideas were touched upon which we were unable to discuss in more detail in this discussion, including . . .)

**MEMBER CHECK**

DETERMINE HOW EACH MEMBER PERCEIVES SELECTED ISSUES  
(Verify how participants feel about certain issues)

**CLOSING STATEMENTS**

Reminder: REQUEST ANONYMITY OF INFORMATION

The research team ensures that your names will not be reported in any research findings and “ask[s] that you refrain from discussing the comments of group members and that you respect the right of each member to remain anonymous” (Vaughn et al., 1996, p. 47).

**ANSWER ANY REMAINING QUESTIONS/WHAT NEXT?**

Any final questions/comments?

**EXPRESS THANKS**

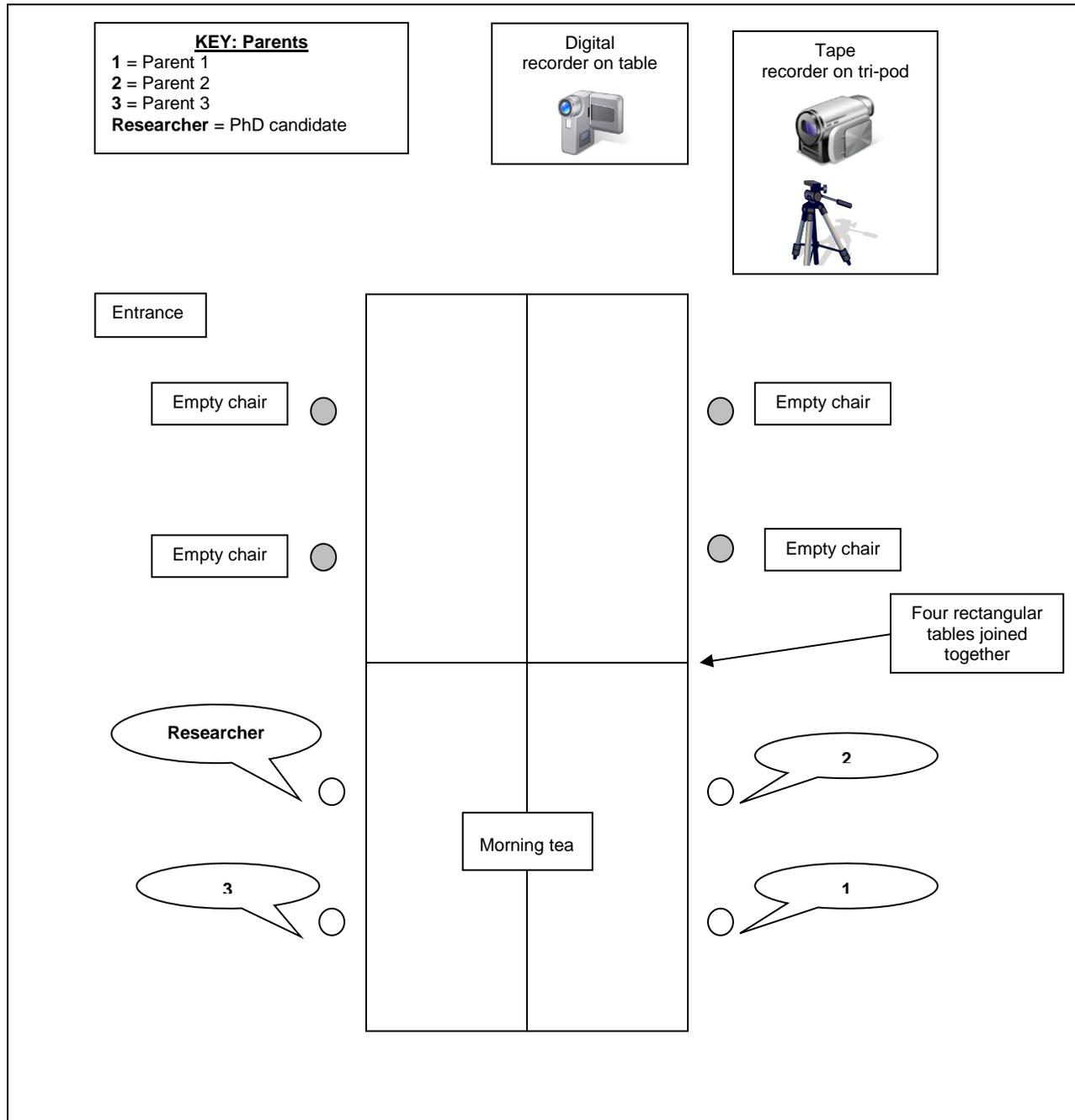
Thanks to [name deleted] for provision of room hire for this afternoon’s discussion and availability of tea/coffee.

Thank you to each of you for your contribution to this research project. Without your participation today, this research project would not consider ALL stakeholders’ input and perspectives on the topic. Thanks again for your involvement.

**PROCEDURES FOR THE PARENT FOCUS GROUP DISCUSSION**

As with the school staff discussion, the researcher ensured the room was comfortable and set up to maximise participant interaction (Minichiello et al., 2008). Figure 6 illustrates the seating arrangements of parents and the researcher at one end of a group of tables (i.e., similar to the configuration for the staff group, but smaller).

**Figure 6**  
Physical arrangement of the room for the parent focus group discussion



Parents were provided with paperwork including an overview of the group discussion (see Figure 7), a researcher-designed demographic form (see Figure 8), and a separate page comprising eight key questions with space beneath each question for parent participants to record initial responses (see Figure 9).

**Figure 7**

Overview of focus group discussion provided to parents

**Research questions:**

1. What school and life experiences facilitate transition from secondary school to post-school life for adolescents with vision impairment?
2. What school and life experiences do not facilitate transition from secondary school to post-school life for adolescents with vision impairment?
3. How could transition from school-to-adult life be enhanced for adolescents with vision impairment?

**Discussion overview:**

1. WARM-UP

Introductions

2. CLARIFICATION OF TERMS

Adolescents/young people/teenagers

Vision impairment

Specialist teacher

ECC (Expanded Core Curriculum)

3. DISCUSSION

4. WRAP-UP

Summarise key ideas

5. MEMBER CHECK

Verify how you feel about certain issues

6. CLOSING STATEMENTS

Anonymity

What next?

Thank you

**Figure 8**

Demographic data form for parent participants

**Background information – Parent/guardian of a secondary school student with VI**

**You**

Your gender: Please circle one option

Relationship to teenager: \_\_\_\_\_

Male	Female
------	--------

Your age (years): Please circle one option

26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66+
-------	-------	-------	-------	-------	-------	-------	-------	-----

Your current occupation: \_\_\_\_\_

Your current employment status: Please circle one option

Full-time	Part-time (Specify: e.g., 2 days/week) _____
-----------	--

People who live at your residence: \_\_\_\_\_

**Teenager's parents**

*Teenager's father:*

Age (years): Please circle one option

26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66+
-------	-------	-------	-------	-------	-------	-------	-------	-----

Current occupation: \_\_\_\_\_

Current employment status: Please circle one option

Full-time	Part-time (Specify: e.g., 2 days/week) _____
-----------	--

*Teenager's mother:*

Age (years): Please circle one option

26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66+
-------	-------	-------	-------	-------	-------	-------	-------	-----

Current occupation: \_\_\_\_\_

Current employment status: Please circle one option

Full-time	Part-time (Specify: e.g., 2 days/week) _____
-----------	--

**Teenager with vision impairment**

Teenager's age: \_\_\_\_\_ Teenager's grade: \_\_\_\_\_ Teenager's gender: \_\_\_\_\_

Teenager's siblings (male/female, ages/school grades): \_\_\_\_\_

Position of teenager with VI in the family: \_\_\_\_\_

Name of secondary school your teenager (VI) is currently enrolled at: \_\_\_\_\_

Other secondary school your teenager (VI) has attended: \_\_\_\_\_

Primary school/s your teenager (VI) attended: \_\_\_\_\_

**Figure 8 (cont.)**

Teenager's vision impairment (condition, acuity, functional vision):

---

Teenager's preferred medium (Braille, large print, audio/combination?). Please specify:

---

Vision aids/assistive technology used:

---

Does your teenager receive the blind pension? (Yes/No)

---

Has your child accessed services from agencies (VI-related or other)? Yes/No. Please specify.

---

Which services from agencies (VI-related or other) does your child currently access?

---

Key family activities/interests at home & in the community:

---

**Figure 9**

Eight key questions for parent participants to record their initial responses

1. As parents of a child with vision impairment, how do you see your role in the transition from school to adult life for your teenager with vision impairment?
2. How do you assist your teenager with vision impairment to prepare and plan for adult life (in schools and/or working in partnership with families)?
3. What school and life experiences facilitate success in adult life for your teenager with vision impairment?
4. What school and life experiences hinder success in adult life for your teenager with vision impairment?
5. What worries you about your teenager's transition from school to post-school life?
6. What are you looking forward to about your teenager with vision impairment finishing school?
7. How could transition from school to post-school life be enhanced for adolescents with vision impairment?
8. Anything else you'd like to talk about?

The parent discussion was structured around the focus group discussion overview following the researcher-designed moderator guide (Finch & Lewis, 2003; Greenbaum, 2000). The guide was modified to a small extent for the parent discussion group (see Figure 10). Hereafter, the procedure followed that of the staff focus group discussion. The moderator listened, asked questions (Krueger & Casey, 2009), and encouraged participants to communicate a range of views about the key issues discussed (Kvale & Brinkmann, 2009).

**Figure 10**

Moderator guide for the school staff focus group discussion

**INTRODUCTION****(A) WELCOME** [Introduce myself (facilitator & researcher)]

Welcome to [location] to participate in my research project *Understanding the life pathways of young people with vision impairment: A south-east Queensland case study*. You have been selected to participate because you are a parent of a secondary-school student with vision impairment. Your point of view is extremely valuable and important. I am aware of the demands on families, especially at this time of year, and I appreciate your contribution to today's research activity – a focus group discussion.

**\*If you have not completed the “Background Information” sheet/consent forms, please do so now; at the end of the discussion, I will collect yellow sheet, you can keep white sheet.**

**(B) STATEMENT OF THE PURPOSE OF THE DISCUSSION**

To date, I've worked with current adolescents with vision impairment (VI) across three secondary schools (journaling – 1-month and one-on-one interviews - 1 hour each). I have also recently interviewed five past students with VI (who have graduated within the last 10 years) from secondary schools within south-east Queensland. Evidence suggests that “parents of children with disabilities have different experiences of transition” (Centre for Educational Research and Innovation, 1986, p. 28). Today's discussion provides you [parents] with the opportunity to share your perspectives on young people with VI and their transition to life after school. Focus groups are designed to “engage a small number of people in an informal group discussion . . . ‘focused’ around a particular topic or set of issues” (Wilkinson, 2004, p. 177). The purpose of this focus group is to determine your ideas and opinions about the school and life experiences of your child. Additionally, you will have opportunity to discuss your perspective about your child's transition to post-school life (that is, aspects that help/hinder this transition to the real world). “The aim of the focus group is not to reach consensus about, or solutions to, the issues discussed, but to bring forth different viewpoints on an issue” (Kvale, 2007, p. 2). Therefore, your input is essential.

**(C) GUIDELINES TO FOLLOWING DURING THE DISCUSSION**

- Refreshments are available (tea, coffee, biscuits etc.) at any time during today's discussion; please feel free to help yourself.
- Do not say what you think I want to hear/is the right thing to say/what I won't be offended by
- There are no wrong answers – your participation and opinions are valid and valued.
- As you're aware, the session is audio & video recorded; I'm the only person who listens to it/watches it, for transcription & data analysis purposes (then it is deleted).
- Your names will not be reported in any research findings and I “ask that you refrain from discussing the comments of group members and that you respect the right of each member to remain anonymous” (Vaughn et al., 1996, p. 47).

**Figure 10 (cont.)**

- “You do not have to speak in a particular order; when you have something to say, please do so; please do not speak while someone else is speaking” (adapted from Vaughn et al., 1996, p. 42).
- “Remember that there are a number of people in the group and that it is important that [I] obtain the point of view from each of you” (adapted from Vaughn et al., 1996, p. 42).
- “You do not need to agree with what everyone says, but please state your point of view without many negative comments about others’ viewpoints” (adapted from Vaughn et al., 1996, p. 42).
- \*\*After I read out the first question, you will have 1-2 minutes to jot down your key ideas in dot point/note form about what you’d like to say/contribute; after 1-2 mins, discussion will be invited for that question for 8-10 mins; then, the same process will occur for each of the remaining questions.
- “With the limited 1-hour timeframe, I may need to stop the discussion and redirect the group” (Vaughn et al., 1996, p. 42).

D) PROCESS IN BRIEF: warm-up, clarification of terms, establish responses, wrap-up, member check, closing statements.

***Any questions before we move on?*****WARM-UP****(1) SET THE TONE**

As you are aware, each of you currently has a teenager with VI who attends (or has just graduated) from a secondary school in south-east Queensland.

**(2) SET PARTICIPANTS AT EASE**

Briefly (one at a time), please introduce yourself (Litosseliti, 2003), tell us your name, where you live, the age of your child/ren with VI.

**CLARIFICATION OF TERMS****ESTABLISH THE KNOWLEDGE BASE THROUGH KEY QUESTIONS**

What do the terms “*Adolescents/Young people/Teenager*”/“*Vision Impairment*”/“*Specialist Teacher*”/“*O&M Teacher*”/“*ECC*” mean to you?

**PROVIDE DEFINITIONS OF KEY TERMS**

For the purpose of this discussion . . .

- “adolescents/young people/teenager” refers to students who are secondary-school age
- “vision impairment” encompasses all students who have a verified vision impairment, whether they are blind or have low vision (encompasses e.g., braille users and print users)
- “specialist teacher” refers to teachers with a qualification in vision impairment who specifically teach students ascertained/profiled with vision impairment

Figure 10 (cont.)

- “O&M teacher” refers to teachers who “assist in the development of spatial concepts, O&M techniques, long cane skills, & transition programs . . . within the home, school and community environments” (The State of Queensland - Department of Education and Training, 2007, p. 1).
- “ECC” refers to the disability-specific curriculum for students with VI; consists of 9 areas including: compensatory or functional academic skills, including communication modes, orientation and mobility, social interaction skills, independent living skills, recreation and leisure skills, career education, use of assistive technology, sensory efficiency skills, self-determination

***Any questions before we start the discussion?***

**ESTABLISH/ENGAGE DISCUSSION & PERSPECTIVES**

Key questions:

1. As parents of young people with vision impairment, how do you see your role in the transition from school to adult life for your teenager with vision impairment?
2. How do you assist your teenager with vision impairment to prepare and plan for adult life (in schools and/or working in partnership with families)?
3. What school and life experiences facilitate success in adult life for your teenager with vision impairment?
4. What school and life experiences hinder success in adult life for your teenager with vision impairment?
5. What worries you about about your teenager’s transition from school to post-school life?
6. What are you looking forward to about your teenager with vision impairment finishing school?
7. How could transition from school to post-school life be enhanced for adolescents with vision impairment?

*We’ve done the set questions. Now, I’d like you to take a minute to brainstorm anything else we want to be talking about.*

8. Anything else you’d like to talk about?

*So, now you can share your voice, as parents of young people with VI. Let’s look at this study’s research questions at the top of the white page. RQ1 – Is there anything else you’d like to contribute or comment on? RQ2 – Is there anything else you’d like to contribute or comment on? RQ3 - Is there anything else you’d like to contribute or comment on?*

**Figure 10 (cont.)****Questions/prompts to ask the group after responses for each question:**

- “Tell me about . . .” (Litosseliti, 2007)  
 “Are you happy with your responses for this item?”  
 “Which aspects of your responses need to be refined/changed?”  
 “Have you considered . . . ?”  
 “\_\_\_\_\_, we haven’t heard your opinion about . . .”  
 “Can you give us an example of \_\_\_\_\_”  
 “What do you think about . . . ?”  
 “Could you say more about . . . ?”  
 “Can you think of any alternatives?” (Krueger, 1994)

**WRAP-UP****(5) IDENTIFY AND ORGANISE THE MAJOR THEMES FROM THE PARTICIPANT’S RESPONSES**

(Key ideas – summarise)

**(6) ENSURE THAT ANY CONVERSATIONAL POINTS NOT COMPLETED ARE MENTIONED**

(Several ideas were touched upon which we were unable to discuss in more detail in this discussion, including . . .)

**MEMBER CHECK****(7) DETERMINE HOW EACH MEMBER PERCEIVES SELECTED ISSUES**

(Verify how participants feel about certain issues)

**CLOSING STATEMENTS****(8) Reminder: REQUEST ANONYMITY OF INFORMATION**

The research team ensures that your names will not be reported in any research findings and “ask[s] that you refrain from discussing the comments of group members and that you respect the right of each member to remain anonymous” (Vaughn et al., 1996, p. 47).

**(9) ANSWER ANY REMAINING QUESTIONS/WHAT NEXT?**

Any final questions/comments?

**(10) EXPRESS THANKS**

Thanks to [location] for provision of space for discussion for this morning’s discussion and availability of facilities.

Thank you to each of you for your contribution to this research project. Without your participation today, this research project would not consider ALL stakeholders’ input and perspectives on the topic. Thanks again for your involvement.

## CONCLUSION

As part of this student-centred study, focus group discussion procedures were developed that allowed the researcher to facilitate two separate group discussions with other stakeholders (viz., school staff and parents) involved in preparing young people with vision impairment for post-school life. An overview and moderator guide for each discussion, forms to collect demographic data, and key questions were created to maximise the opinions and experiences collected from these stakeholders. The development of these context-specific protocols positioned staff and parent participants to share relevant and meaningful data in the focus group discussions. Additional research in this area may assist young people with vision impairment to put their post-school plans into practice. The researcher-designed focus group discussion procedures (i.e., moderator guides and demographic forms) could be administered with school staff members and parents preparing adolescents with vision impairment for post-school life in Queensland, across Australia, and internationally.

## AUTHOR'S NOTE

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# A review of the impact of glare and fatigue on visual function

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## ABSTRACT

Educators are expected to formulate a broad understanding of the visual function of students they support with vision impairment, often beginning by reviewing the clinical measurements that are included in an ophthalmology report. However, these clinical measurements may not reflect the student's observed visual capacity, due to overestimation of the student's visual function. Further, these clinical measurements may sometimes not reflect the real life factors that potentially impact on the student's visual function. This paper will review the educational and ophthalmic literature to investigate two such important factors – glare and visual fatigue. It is anticipated that educators will be able to apply the results of this review, to broaden their understanding of visual function beyond clinical measurements, and to better support students with vision impairment.

**Keywords:** glare, visual fatigue, vision impairment

## INTRODUCTION

An essential part of the education and care of a student with vision impairment is to ensure that he or she accesses timely ophthalmic assessment, as soon as suspicion arises regarding their eyes and vision. An important aim of ophthalmic assessment is to determine the student's visual function, by applying age appropriate tests that measure visual acuity and visual fields. The student's visual function is then commonly reported in terms of the numerical score they have achieved on these tests. The process is known as one of obtaining clinical measurement.

Clinical measurements are used by a variety of professionals for a variety of purposes. For example, eye health professionals will consider clinical measurements when obtaining a student's diagnosis and in developing a therapeutic management plan for remediating their ophthalmic condition (Blais, 2011). As a further example, school administrators may apply clinical measurements to defined criteria to determine the student's eligibility for disability and educational support funding.

A variety of educators will use clinical measurement to estimate the student's likely visual performance and capacity within the school environment. However, educators have long known that the visual function indicated by the student's clinical measurements often fails to align with the visual performance observed in the classroom. Perhaps this discrepancy is not surprising, given that the clinical environment has usually been optimized to reveal the student's visual threshold, by controlling the factors that might impact on vision. For example, attention is paid to clinical illumination to diminish glare. Also, clinical assessments are often scheduled to lessen the potential impact of fatigue on the student's performance; as for example, the practice of scheduling assessments for young students early in the day. Similarly, most vision tests used to assess students in ophthalmology clinics are, by nature, brief, and do not place prolonged visual

demand on the student compared to tasks such as reading, that occur over a day in the classroom.

A dilemma thus arises for educators in understanding the true nature of a student's visual function from their clinical measurements. This paper will discuss the notion that certain factors can impact on the visual function indicated from the student's clinical measurements, and will identify two such important factors –(a) glare and (b) visual fatigue. A review of the ophthalmic and educational literature that has examined the nature and impact of glare and visual fatigue will be presented. It is anticipated that this information can be used by educators in our schools, to develop a broader understanding of the students they support.

### **THE NEED TO UNDERSTAND THE STUDENT'S VISUAL FUNCTION**

Students with vision impairment face many hurdles in their learning including concept and literacy development; access and participation in curriculum and learning activities; social interaction, independence and self-organisation; and orientation and mobility (South Pacific Educators in Vision Impairment, 2015). There is no question that the role of educators in supporting such students is a complex and challenging task. A particular challenge is developing a broad understanding of the student's visual function. Educators are usually privy to the clinical measurements found in the student's ophthalmology report for this purpose. However, D'Andrea and Farrenkopf (2000) addressed the risk of overestimation of a student's visual function from clinical measurements. They commented that it is unlikely the student will experience the "perfect environmental circumstances" found in the ophthalmology clinic and concluded that "as a result, the student may not be able to function as well as reported visual acuity results would imply" (p. 14).

A salient example of such a shift in visual function from that determined clinically to that displayed in a student's real-life environment is apparent in functional vision assessments (Fazzi & Naimy, 2010). These types of assessments are frequently conducted within the classroom environment, with one component of the assessment determining the student's preferred print size for reading. A study by Miller (2015) examined the preferred near print size for a group of 45 students with vision impairment aged 5-17 years, who underwent low vision functional assessment. The results showed that every student indicated a preference for an increased print size from that indicated in their ophthalmology report.

Clinical measurements can perhaps be used as a starting point for educators in their understanding of a student's visual function within the school environment. This understanding can then be broadened by considering the factors that might impact on the student's reported visual function. Two such factors that are frequently identified in the literature are (a) glare and (b) visual fatigue. Mason (1997) discussed the educational implications of many types of ophthalmic disease that cause vision impairment, with glare and visual fatigue cited as the most common symptomology needing consideration and management within the classroom setting.

### **FACTORS THAT IMPACT ON VISUAL FUNCTION - GLARE AND VISUAL FATIGUE**

Several ocular structures play a role in managing the light that naturally enters the eye. The iris, a pigmented structure within the anterior chamber of the eye, supports an aperture known as the pupil. When the eye is exposed to light the pupil reacts by constricting to prevent excessive

light from entering the eye (Lens, Nemeth & Ledford, 2008). Further, the retina or the inner nervous layer of the eye contains cells known as the pigment epithelium that act to absorb light as part of the visual process; this absorption prevents light scatter within the eye (Forrester, Dick, McMenamin & Roberts 2008). However, van den Berg (1991) described the eye as optically imperfect and despite the role these particular ocular structures play in managing light, the avoidance of glare even in eyes without ophthalmic disease is near impossible. That author commented that glare is a lifelong experience that begins in early childhood, and is one that is generally visually debilitating.

Mainster and Turner (2012) defined glare as environmental luminance entering the eye, that is too intense or variable across the visual field, and as luminance that does not aid vision (p. 588). van den Berg, Franssen and Coppens (2010) further commented that structures within the eye may naturally contribute to the intraocular light scatter that causes glare. These structures include the cornea and the lens that cause a level of light scatter as refracting surfaces; the iris and sclera as they are not completely opaque, allowing light falling on both structures to pass through to the retina; and the retina itself as it does not absorb all light falling on it, but rather reflects some light backwards causing scatter. Also, aging and vision impairment are known to increase a person's susceptibility to the effects of glare (Mainster & Turner, 2012). Further, a study by De l'Aune, Geruschat and Smith (1992) determined that experiencing glare was the most significant hindrance to orientation and mobility. By way of clarification, Aslam, Haider and Murray (2007) identified three types of glare, these being (a) disability glare, (b) adaptation glare and (c) specific light phenomena.

### **1. Disability glare**

Disability glare describes the "...loss of retinal image contrast as a result of intraocular light scatter or straylight" p. 354 (Aslam et al., 2007). Mainster and Turner (2012) commented that disability glare impairs visual function by reducing the contrast of retinal images by spreading a veiling luminance across the images falling on the retina. This loss of contrast makes the image appear fainter, as if being viewed through a fog (Bex, 2011). The impact on contrast is most significant in dimmer environments as the retinal photoreceptors active in low levels of light – the rods – require increased contrast for visual detection (Barbur & Stockman, 2011). Disability glare may also cause the phenomenon known as colour desaturation that causes a loss of colour tone (Beckman, Scott & Garner, 1992). Further, van den Berg et al. (2010) stated that the person experiencing disability glare may also complain of hazy vision and increased glare hindrance.

The major ophthalmic pathological causes of straylight include cataract, corneal disturbances, turbidity in the vitreous such as floaters (van den Berg et al., 2010) and when iris and fundus hypopigmentation exist (van den Berg 1986). It is also known that people who have undergone refractive surgery or those who wear contact lenses may also experience disability glare from straylight (van den Berg et al., 2010).

The effect of disability glare has been examined in several studies. van den Berg (1986) noted that in people with ophthalmic disease, the impact on visual function, specifically on contrast sensitivity from light scatter was significant. However, a similar impact was not found on the participant's visual acuity, leading the author to conclude that in the presence of disability glare "...for these patients, the visual acuity test gives a rather limited impression of their visual handicap" (p. 327). In a further study, van den Berg et al. (2010) similarly noted that the effect

of disability glare on visual function may be significant, particularly when the person is vision impaired.

Ivers, Mitchell and Cumming (2000) have reported on the impact of disability glare within the studied population from their Blue Mountains Eye Study, a cross sectional census-based survey of eye disease (N=3654). When participants (including those with and without ophthalmic disease) were found to have disability glare, it was noted that their contrast sensitivity was reduced (at 6 cycles per degree), with a significant association with such self-reported visual disabilities as night driving difficulties, reduced ability for face recognition and detail recognition while watching television. They concluded that the presence of disability glare may have been a predictor of reduced visual function in the study participants. Similarly, Barstow, Bennett and Vogtle (2011) stated that in the presence of disability glare, the loss of contrast sensitivity was reported as a major concern for people with all forms of vision impairment, even those with mild vision impairment.

## **2. Adaptation glare**

Mainster and Turner (2012) defined visual adaptation as the response of the eye to a range of luminance in the direct visual environment. Despite the eye's capacity to adapt, a delay is often encountered and glare can be experienced. This delay is known as adaptation glare and typically occurs when a person moves from either a well-lit to a dark, or a dark to a well-lit environment (Aslam et al., 2007). As adaptation to lower levels of illumination takes longer, the disturbance to visual function can be prolonged when moving from well-lit to dark (Mainster & Turner, 2012). As with disability glare, when a person has vision impairment the effects of adaptation glare will be more pronounced (Aslam et al., 2007).

## **3. Specific light phenomena.**

Aslam et al (2007) also included a third term in their definition of glare. They used the term specific light phenomenon to describe a variety of visual experiences such as halos that are a common phenomenon noticed by people with cataract.

## **GLARE AND PHOTOPHOBIA**

It is worth noting that the term photophobia is routinely used in the literature and is occasionally interchanged with the term glare. However, Mainster and Turner (2012) differentiated the two terms and described photophobia as "an abnormal response to normal illumination exaggerated by abnormal light exposure" (p. 589). They further commented that photophobia is often accompanied by blepharospasm (involuntary twitching, blinking or closing of the eyelids) and cortical pain (headache), and may occur when ophthalmic disease is present. Hence, glare and photophobia should not be used interchangeably as nomenclature that describes visual phenomena related to light.

## **MANAGEMENT OF GLARE**

An interest in the concept of glare and its measurement has bridged numerous professions including ophthalmology, illumination engineering, visual neuroscience and neurology (Mainster & Turner, 2012). Within the AMA Guides to Evaluation of Ophthalmic Impairment and Disability, Blais (2011) commented that adjustment should be made for glare sensitivity, delayed glare recovery, photophobia, and reduced or delayed light and dark adaptation. However the capacity

to accurately measure glare to permit fair adjustment continues to be a challenge, and as Mainster and Turner (2012) commented “ many clinical disability glare testers have been developed, but results have been variable and no widely accepted testing protocols exist despite over two decades of study” (p. 590). Perhaps it is safe to conclude that the existence and impact of glare are well recognised in the literature, but the capacity to accurately measure that impact continues to evade professionals.

From an educational perspective, Anthony (2008) commented that glare is the most common complaint of a person with vision impairment, and that time should be dedicated to analysing and minimising classrooms for sources of glare such as gloss finishes on furniture, glare from computer monitors and other shiny surfaces including paper. It is further recommended that students undergo specific low vision evaluation and remediation for the effects of glare.

Griffin-Shirley, Trusty and Rickard (2000) described simple but efficient ways of managing glare within the school environment that included (a) positioning of the student to avoid glare; (b) use of sunglasses and hats within the classroom and outside to support the student with glare generally, and (c) classroom modifications such as alternative lighting and window covering. McGregor & Farrenkopf (2000) suggested use of sunglasses and hats to reduce glare during the period of adjustment experienced when moving between light and dark environments. Fazzi and Naimy (2010) reinforced the need for adequate assessment of the student to support selection of optical quality lenses that provide suitable ultraviolet protection, specifically according to the ophthalmic condition present. Geruschat and Smith (2010) also suggested changing the angle of viewing away from the glare to improve visibility, while Kamei-Hannan and Ricci (2015) discussed the use of electronic displays that provide appropriate illumination for reading.

By reviewing the literature it becomes apparent that glare can have a significant impact on a student’s visual function, and therefore warrants judicious consideration by the educator.

## **VISUAL FATIGUE**

As with glare, visual fatigue occurs commonly in people with vision impairment, and is often accompanied by headaches and general discomfort (Kamei-Hannan & Ricci, 2015). Lusk and Corn (2006) have commented that visual fatigue is one of the important challenges for students with vision impairment who are learning to read print, and that it is “...among the visual difficulties that challenges the enthusiasm of these students” (p. 3). Visual fatigue can have a flow-on effect, dampening visual function, causing blurred vision, or even causing a significant reduction in visual acuity (Sticken & Kapperman, 2010). Abadi and Bjerre (2002) discussed the impact of visual fatigue on people with infantile nystagmus, for example when a person has oculocutaneous albinism. They noted that the oscillations (involuntary eye movements) associated with the nystagmus increased as the person became tired, resulting in a reduction in their visual function.

## **MANAGEMENT OF VISUAL FATIGUE**

Within the educational literature that addresses vision impairment, it is perhaps more common that a person’s visual stamina rather than their visual fatigue is described. Visual stamina is the person’s capacity to maintain their visual efficiency over time. Koenig and Holbrook (2010)

noted that increasing levels of visual fatigue can cause visual stamina to fluctuate and even wane. Visual stamina is frequently referred to in the context of reading. For example, Koenig and Holbrook (2010) described measuring visual fatigue in students reading over extended periods of time, to assess if they have sufficient stamina to complete their required tasks, with a level of comfort. They further commented that a student with vision impairment may not enjoy reading and this may in part be due to insufficient comfort for the task. Vik and Lassen (2010) discussed findings from research on a group of students with severe vision impairment and their experiences with reading. The majority of students identified a lack of stamina as one of the challenges they faced when working with printed materials. Kamei-Hannan and Ricci (2015) further commented that students with vision impairment who experience visual fatigue may have less energy to comprehend what they are reading.

Holbrook, Koenig and Rex (2010) provided strategies for dealing with visual fatigue that occurred during reading, including monitoring the student for signs of visual fatigue such as headache, frustration, tired eyes and increasing reading errors; encouraging rest periods when visual fatigue occurs; changing the mode of delivery of the reading material, for example from print to audio and the transition to Braille; and the physical repositioning of the student to generally improve their comfort.

This review of the literature concerning visual fatigue reveals that it is a factor that warrants serious consideration when determining a student's visual function in the environment where their learning will occur.

## **DISCUSSION**

Australian education systems are mandated by The Disability Discrimination Act, 1992 (Australian Government ComLaw, 1992) and the Disability Standards for Education, (Australian Government ComLaw, 2005) to fulfil obligations to students with disability, including students with vision impairment. To achieve these obligations, educators need to broadly understand the individual student's visual function. This calls for an understanding beyond the clinical measurements reported in an ophthalmology report. However, as D'Andrea and Farrenkopf (2000) have commented "...the snapshot of a child's visual abilities at a particular time, one that is provided by a clinical examination, may not be an accurate picture" (p. 14). Thus, it becomes imperative that the educator is aware of the factors that can impact on the student's ability to function visually.

An understanding of the student's visual function is vital for enhancing their classroom performance, but also extends to such issues as educational accommodations, or adjustments made for the existing vision impairment. Steer and Gentle (2007) commented that the aim of such accommodations is to "level the playing field" (p. 32) to enable students with vision impairment to demonstrate their learning. Further, they described the need for educational integrity when deciding upon suitable accommodations, according to the individual student's needs. To achieve this integrity, educators must again draw on a broad understanding of the student's visual function.

With the recent recognition of Specialist Teachers (Vision Impairment) as early intervention service providers for the Better Start Initiative (Australian Government, Department of Social Services, 2015), educators will be well-placed to assume a lead role in supporting children with

vision impairment. Further, as the Better Start Initiative transitions to the National Disability Insurance Scheme (Australian Government, Department of Social Services, 2015), educators can provide direct and consultative support to people with disability, in needs assessment and planning. Again, a broad understanding of the person's visual function will be foundational to ensuring the educator's advice meets the individual needs and goals of the person being supported.

The review of the ophthalmic and educational literature presented in this paper has identified two factors that have the potential to impact significantly on visual function – (a) glare and (b) visual fatigue. An assessment protocol that includes identification, measurement and then calculation of the impact of glare and visual fatigue would be ideal, but does not currently exist. Although the literature available on glare and visual fatigue is somewhat limited, the studies discussed here demonstrate the importance of educators becoming aware of the potential impact of such factors on a student's visual function, and that both be considered when deciding on accommodations and strategies to support the student with vision impairment.

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# PDF use within the blindness and low vision sector in Australia and New Zealand

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## ABSTRACT

The Portable Document Format (PDF) has become the defacto format for content sharing via electronic and on-line means. As society increasingly adopts digital options for information creation and sharing in all walks of life, the accessibility of information in the PDF format is a matter of concern for all people who use screen reading technology. If designed with accessibility in mind, PDF can be a highly accessible format. However, when it is not accessible it has the potential to leave people who are blind or vision impaired on the wrong side of the digital divide. This paper reviews the use of PDF within the agencies and organisations that support blind and vision impaired people in Australia and New Zealand.

## BACKGROUND

The PDF format was created in 1993 by Adobe Systems to be a format designed specifically for the “electronic transmission” of documents. It has many features suited to that purpose, such as platform independence, meaning it can be used on all operating systems and browsers. It also maintains the integrity of a document and ensures that each page looks the same, no matter where or how they are viewed or printed.

Adobe chose to make PDF a freely available specification and consequently many other organisations have added the ability to produce PDF to their own software, and there are now countless options for producing documents in PDF format.

In May 2015 Forrester Research reviewed the use of PDF format on websites worldwide and estimated that around 73% of content is provided in PDF format.

## WHY REVIEW PDF USE?

The term ‘digital divide’ is now in widespread use and is understood to represent the division between those who can and cannot obtain full access to digital information. The digital divide has many causes, and some like affordability and remote locations are more intractable. Providing full access to digital information for people who are blind or have low vision is a more easily solved issue.

Given that people who are blind or have low vision arguably have the most to gain from accessible content, it seems logical to assume that the organisations that support them would be leading the way in accessible content creation.

## WHAT IS AN ACCESSIBLE PDF DOCUMENT?

Screen readers such as JAWS and NVDA are used by blind computer users to navigate and read text on a screen. To “read” a PDF document the screen reader software needs to be given the information that a sighted person “sees”, such as lay-out, styles and format. This information is provided to the screen reader by small electronic ‘notes’ that are contained in the background of the document. These are called “tags”. A PDF document that is properly “tagged” can be read easily using a screen reader.

The ability to add tags to a PDF document has been built-in to many software programs such as Microsoft Office for many years. By using the styles built in to MS Word for example (Heading styles, list tools etc), tags are automatically created.

A tagged document is readable by a screen reader. An untagged document is mostly unreadable by a screen reader.

## METHOD

Using a new tool for analysing PDF web content (Clarity from Commonlook), the websites of the following organisations were examined;

- Guide Dogs Tasmania
- Guide Dogs Victoria
- Guide Dogs NSW/ACT
- Guide Dogs Queensland
- Vision Australia
- Blind Citizens
- Royal Society for the Blind
- Royal Institute for Deaf and Blind Children
- South Australian School for Vision Impaired
- CanDo
- Blind Sports
- Macular Disease Foundation
- Visability
- Royal New Zealand Foundation for the Blind

The websites for Blind Citizens Australia and Guide Dogs Queensland were eliminated as they did not contain any content in PDF format.

## RESULTS

The Clarity tool is able to determine the total number of PDF files, whether they are tagged or untagged, and if they meet a host of other accessibility checks. The Clarity tool is also able to determine the sources of the document.

**Table 1**  
Summary of PDF file Status

<b>File Status</b>	
Tagged Files	6%
Untagged Files	3%
Files Passing All Tested Checkpoints	%
Files Failing at Least One Checkpoint	4%
Files to be Verified by User	%
Files Verified by CommonLook Office	%
Files Verified by CommonLook Clarity	8%
Files Passing Automated Checkpoints	%

**Table 2**  
Summary of Authoring Tools Used

<b>Authoring Tool Used</b>	
Acrobat PDFMaker for Word	%
Acrobat PDFMaker 9.0 for Excel	%
Adobe Illustrator	%
Adobe InDesign	1%
Adobe PageMaker	%
Adobe Photoshop	%
ApeosPort	%
Cannon Scanner	%
Crystal Reports	9%
Excel	%
MS WORD	3%
Pscript	%
Undetermined	%
Miscellaneous	%

## **DISCUSSION**

While the results are disappointing they are not much different from what would be found in any other sector, including government and the private sector.

The result of 36% for tagged files is particularly disappointing since it indicates that accessible content is not a high priority of the sector. Having said that, there were big differences between individual agencies, indicating that some agencies are placing a higher value on document accessibility than others.

The need for document accessibility has to be a known issue across the sector, so this review highlights that even when there is an understanding of the need, a positive outcome is not guaranteed. Across all levels of society there is a widespread lack of appreciation of the importance of creating information in an accessible format, and some of the roadblocks to changing this include;

- A lack of identifiable champions
- A legislative framework that is based on complaints rather than compliance. The onus is on the individual to take on a non-compliant organisation, which can be a daunting and risky proposition.
- Many organisations view accessibility as just another cost and are not convinced that there is an up-side.
- To achieve best practice accessibility performance within an organisation requires cultural change, and this doesn't happen without strong leadership.

## **THE WAY FORWARD**

Organisations wishing to improve their document accessibility performance need to develop a formal Accessibility Policy and publish it on their websites. There needs to be a clear mandate for best practice that will help develop shared values and understanding throughout the organisation.

Organisations also need to identify and use the current verification and remediation tools that are available. Using these tools, responsibility for creating accessible documents needs to be moved to the author level.

Our march towards a digital future needs to include everyone.

## Professional support from the Association

Heather Grainger

*SPEVI Member 1971-2000*

I was transferred to Narbethong School for Visually Handicapped Children in Buranda, Brisbane in 1971 after teaching in Primary Schools for 5 years. I felt confident in my skills to teach middle primary -aged children but I had no experience or training in teaching students with vision impairment. The Principal, Eric Searle, and other experienced Narbethong teachers provided me with ongoing collegiate support in my early years at the school. Contact with the Australian and New Zealand Association for the Visually Handicap (ANZAEVH) proved to be another important aspect in my professional development. Eric encouraged me to become a member, to attend biennial conferences, and to nominate to complete the Association's Diploma. Tertiary programs in education of students with disabilities were in their infancy and short specialised courses were being introduced for preservice teachers. Mt Gravatt Teachers College (now Griffith University) had introduced a one year's course in some areas of disability for selected preservice students. ANZAEVH's diploma provided one of the few opportunities for trained teachers to gain additional qualifications.

Since 1957, the Association, then called Australian Association of Teachers of the Blind (AATB), had an arrangement with the College of Teachers of the Blind in the UK. This arrangement enabled Australian and New Zealand teachers to sit the examination for a Diploma in the Education of either 'the Partially Sighted' or 'the Blind', or in both areas. By the mid-1960s, the Association, then called the Australian and New Zealand Association of Teachers of the Blind (ANZATB), had established its own Board of Examiners that reported to the ANZATB General Council. The Board of Examiners consisted of a Chairman and Secretary who, together with experienced members of the Association, set and marked the examination papers for the Diploma, and offered a Certificate in Braille Proficiency.

To be eligible to sit for the Diploma, candidates had to hold a teaching qualification from a recognised teacher training institute. It was also recommended that candidates had at least three years of experience in teaching students with vision impairment before attempting the diploma. Candidates from countries other than Australia and New Zealand could sit the examination provided they fulfilled these requirements. A registration fee of \$10 was charged and the examination was held in the last week of July each year. Guidelines outlining the regulations and syllabus were developed by ANZAETB, and a reading list was supplied. The syllabus was divided into the following sections:

### **Section 1 Blind Education**

Candidates were required to

- read aloud, with reasonable fluency, a passage of Standard English in Grade 2 braille,
- read a short passage silently and answer questions,
- transcribe Standard English print into braille, and
- answer questions showing knowledge of Grade 2 braille and its practical applications.

### **Section 2 Chosen Subject**

This section required all candidates to nominate for a particular area of education. This could be either the class level they were teaching (e.g. Infant or Junior School, Junior or Senior Class

work), or their area of specialisation within the school (e.g. Foreign Language, History, Music, Physical Education, Mobility).

**Section 3** *General Theory and Education of Blind Children*

- Curriculum and lesson planning
- Apparatus and Aids
- Psychology of the blind/partially sighted
- Application of psychometric testing to the classroom

**Section 4** *Anatomy and Function of the Eye*

- Diseases of the eye
- Causes of visual impairment as they relate to teaching of visually handicapped children

**Section 5** *Thesis of a minimum length of 3000 words, with topic approval by the Board of Examiners.*

**Section 6** *Practical teaching assessed by a person appointed by the Department of Education.* In Queensland the appointed person was an Inspector of Special Education.

**Section 7** *General Theory and Teaching of the Partially Sighted*

Candidates were required to

- discuss the aims in regard to education of partially sighted,
- outline factors influencing learning processes,
- show practical knowledge of aids, techniques and methods, and
- comment on other aspects such as psychological aspects, problems of adjustment, mannerisms, mobility, development of physical fitness, independence and social skills, forms of vocational training and adjustment.

**Section 8** *Communication Skills for the Partially Sighted*

Candidates were to demonstrate

- relevance of low vision aids,
- knowledge of school and classroom architecture,
- knowledge of large print materials, and
- techniques used to improve reading, listening, oral and non-verbal communication skills.

Candidates in the area of teaching the blind were required to successfully complete Sections 1 to 6. Candidates for Partially Sighted were to complete Sections 2, 4, 5, 6, 7, and 8, while candidates for both areas had to complete Sections 1 to 8.

As I had limited experience with teaching blind children, I enrolled in the Diploma in the Education of Partially Sighted and sat for the diploma in 1973. There were very few books and journals. Even though a reading list was available, only the books within the limited school professional library and colleagues' personal collections were available. I particularly remember Thomas Custforth's *The Blind in School and Education* (1951) and *Our Blind Children: Growing and Learning with Them* by Berthold Lowenfeld (1956). There were a few journals from the UK and the USA, for example, *New Outlook for the Blind*, *Education of the Visually Handicapped*. A publication by George Marshall on the eye and its diseases was invaluable. The knowledge shared by experienced colleagues provided additional information.

The topic for my thesis was *Movement Education for Visually Handicapped Children in the Lower Primary School*. In that year, an occupational therapist student from the University of Queensland was undertaking research with some of the students in my class. She was investigating the effects of body scheme training on children with severe congenital vision impairment. I was able to incorporate some of her results into my thesis. I still have a copy of my submitted thesis!

Eric Searle supervised my examination and my practical teaching was assessed by Geoff Swann, Special Schools Inspector, Queensland Department of Education. I received my Diploma at the end of 1973 and the Certificate in the Proficiency of Braille in 1974. As a further bonus the Queensland Department of Education recognised the qualification and advanced my teacher classification by an additional year.

By 1973, there were significant changes in courses offered by tertiary institutions. Mt Gravatt Teachers' College/Mt Gravatt College of Advanced Education (CAE) had commenced offering a three-year course for those preservice teachers wishing to teach children with disabilities. Student teachers were specifically selected from the applicants on the basis of personal suitability, academic grades and teaching practicum. 'Teaching visually handicapped' was one of the disability areas and the first intake of three included Paul Pagliano and Peter Blatch. With an injection of Commonwealth funding into tertiary education in the 1970s, the first full-time education lecturers in the areas of vision, hearing, physical and intellectual impairment were appointed to Mt Gravatt CAE in 1974. As a result, the CAE offered a Graduate Diploma in Special Education, a one year in-service course for class teachers. The Queensland Department of Education offered class teachers a year of release from their positions on full salary to retrain in one of the area of disability. I was fortunate enough to be one of the three teachers chosen from Narbethong to complete the first year of this course. A requirement of the course was to sit for the ANZAEVH Braille Proficiency Certificate.

The Board of Examiners remained part of the Association until the mid-1980s; however fewer teachers were applying to complete the requirements for the Diploma. By that time I was one of the examiners. The last person I remember receiving the Diploma was Paul Pagliano. Attending biennial conferences, establishing links with interstate and international colleagues, meeting international researchers, lecturers and authors (Natalie Barraga, Phil Hatlin, Mike Tobin, George Marshall, Rosemarie Swallow) were essential in maintaining and developing the depth and breadth of my knowledge. Membership of the Association (with its various name changes) played a vital role in my continuing professional development over 30 years.

# The Australian Curriculum: Access for students with vision impairment who may also have additional disabilities

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## ABSTRACT

The disability-specific skills and concepts known as the Expanded Core Curriculum (ECC) are essential components of educational programs for students with vision impairment (VI). The Australian Curriculum is lauded as being a curriculum for all students including those with diverse needs. However, in specifying the process of differentiation that should apply to all students, it fails to emphasise that certain cohorts are entitled to curriculum that sits outside the core learning area content as per the Convention on the Rights of Persons with Disabilities and other legislation/policy within the Australian context. The Australian Curriculum and/or supporting documentation should be updated to reflect this entitlement.

## INTRODUCTION

When considering curriculum access for students who have vision impairment (VI) (with or without additional disabilities) it is necessary to understand the unique learning needs of this cohort. While inherently diverse, students with VI face the challenge of becoming, “successful learners, confident and creative individuals, and active and informed citizens” (Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], 2008, p. 8) in a world that is primarily designed for those with vision. It follows that the disability-specific skills and concepts known collectively as the Expanded Core Curriculum (ECC) (Hatlen, 1996) are essential components of educational programs for students with VI. However, questions have been raised as to the inclusive nature of the *Australian Curriculum* (Australian Curriculum, Assessment and Reporting Authority [ACARA], n.d.), particularly as regards to students with special needs (Chappell, 2013; Donnelly & Wiltshire, 2014; Elliott, Davies, & Kettler, 2012; Lyons & Cassebohm, 2012; Muskovits, 2010; Shaddock, 2012). This discussion will reinforce the premise that the ECC should be considered alongside the core *Australian Curriculum* (ACARA, n.d.) for students with VI (with or without additional disabilities). Furthermore, in order to improve general understanding and acceptance of the need for the ECC for students with VI, acknowledgement of the ECC should exist within the *Australian Curriculum* documentation (ACARA, n.d.).

## THE HISTORY OF INCLUSION

The concept of inclusion has evolved to encompass the notion that, “everyone is considered normal, and the needs of all can be met” (Konza, 2008, p. 39). Konza noted that the UN *Convention on the Rights of the Child* (United Nations, 1989) and the *Salamanca Statement* (United Nations Educational, Scientific and Cultural Organisation, 1994) have been instrumental in promoting the social justice movement and acceptance of the philosophy of inclusion.

Shaddock (2012) asserted that Australian children's educational rights have been upheld in response to the *UN Convention on the Rights of Persons with Disabilities [UN CRPD]* (United Nations, 2006) to which Australia is one of the State signatories (United Nations Enable, n.d.). The *UN CRPD* (United Nations, 2006) draws its fundamental principles of human rights from the *Universal Declaration of Human Rights* (United Nations, 1948). UN member States that ratify the *UN CRPD* (United Nations, 2006) are legally bound to uphold the human rights of people with disabilities so that discrimination is avoided and ability is celebrated. In particular, the *UN CRPD* (United Nations, 2006) recognises that disability is exacerbated by negative societal perceptions and the way that society may react to a person's impairment or their capacity to perform tasks. The *UN CRPD* applies to people of all ages and pertains to, "accessibility, personal mobility, health, education, employment, habilitation and rehabilitation, participation in political life, and equality and non-discrimination" (United Nations, 2006, p. 2).

### **INCLUSION WITHIN EDUCATION**

With regards to education, the *UN CRPD* (United Nations, 2006) states that students with disability should have access to inclusive education on an equal level to children without disability. Specific reference is made to children who are blind, deaf, or deafblind. The Convention highlights that there should be appropriate support from specialist teachers and differentiation to accommodate individual needs, including provision of appropriate materials, learning environments, learning media and modes of communication, orientation and mobility (O&M), and support for social competency development (United Nations, 2006). Children with disability are noted in the *UN CRPD* to have the right to voice their opinion in regards to issues affecting them (United Nations, 2006).

### **INCLUSIVE LEGISLATION**

While countries that have ratified the *UN CRPD* (United Nations, 2006) are bound to implement its articles, they are able to do this in various ways. For example, the *Individuals with Disabilities Education Act of 2004* (IDEA) guides service provision in the United States (Boehner & Castle, 2005), with the premise that children with disabilities should be provided with a free public education that caters for individual needs and that encourages ongoing learning, employment and independence (American Psychological Association, 2014). Lohmeier, Blankenship and Hatlen (2009) noted that the IDEA mandates that assessment and instruction in the ECC is provided for students with vision impairment.

### **INCLUSIVE LEGISLATION IN AUSTRALIA**

In Australia, the *Disability Discrimination Act 1992* (Australian Government Attorney General's Department, 1992) aims, "to eliminate, as far as possible, discrimination against persons on the grounds of disability" (p. 1). The *Disability Standards for Education 2005* (Australian Government Attorney General's Department, 2005), inform how the overarching *Disability Discrimination Act 1992* (Australian Government Attorney General's Department, 1992) applies to education. In particular, the Standards describe the rights of people with disability and the obligations of education providers in ensuring that education is accessible for people with disabilities (Australian Government Attorney General's Department, 2005). According to the *Disability Standards for Education 2005* (Australian Government Attorney General's Department, 2005), an adjustment is, "a measure or action" (p. 10), that allows a student with

disability to enrol, to participate, or to use facilities or services, “on the same basis as a student without a disability, and includes an aid, a facility, or a service that the student requires because of his or her disability” (p. 10). The *Disability Standards for Education 2005* (Australian Government Attorney General’s Department, 2005) also note that adjustments of teaching to allow development of disability-specific skills are a measure of compliance with the standards.

## THE AUSTRALIAN CURRICULUM

The *Australian Curriculum* (ACARA, n.d.) is relatively new, with the first four learning areas (disciplines) being endorsed by State ministers for education in 2010. Development of the *Australian Curriculum* was founded on the goals of the *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA, 2008). That is, “Australian schooling promotes equity and excellence,” and, “all young Australians become: successful learners, confident and creative individuals, and active and informed citizens” (MCEETYA, 2008, p. 7). Development of the *Australian Curriculum* is continuing, with some learning areas awaiting final endorsement.

## THE AUSTRALIAN CURRICULUM AND ADJUSTMENTS FOR DIVERSE LEARNING NEEDS

ACARA (2013b) acknowledges in the *Australian Curriculum* its obligation to cater for student disability (ACARA, 2013b) and explains how the Curriculum can be used to meet diverse student learning needs (ACARA, 2013c). The *Australian Curriculum* is described by ACARA (2013c) as being three-dimensional such that it comprises, “learning areas, general capabilities and cross-curriculum priorities” (p. 5). A flowchart is provided to demonstrate the process by which teachers make adjustments using the three-dimensional design, and this process of differentiation is said to apply to, “all students, regardless of their circumstances, progress in learning or the type or location of school they attend,” and ensures that, “all students have the same opportunities and choices in their education” (ACARA, 2013c, p. 6).

ACARA (2013c) categorises adjustments into three types: curriculum adjustments, that modify what the student learns (that is, the content can be adjusted by selecting from a younger/older year level, choosing learning goals from the general capabilities or by focussing on the cross-curricular priorities); instructional adjustments, that alter how the student learns; and environmental adjustments, that modify the presentation of learning materials and the learning environment. ACARA (2013c) clearly notes that age-appropriate learning area content must be the starting point for adjustments and must also provide the context for learning (p. 13). Apart from a brief mention that, “some students’ progress will be assessed in relation to their individual learning goals” (ACARA, 2013c, p. 6), there is no mention of the possibility that students may access content other than that contained within the *Australian Curriculum*.

## VISION IMPAIRMENT AND THE EXTENT OF DIVERSITY

As previously noted, ACARA (2013b) proclaims that the *Australian Curriculum* caters for diverse populations of students. Diversity exists within student populations on many levels and even within the broad classification of VI there is diversity (Keeffe et al., 2014; Kong, Fry, Al-Sarraie, Gilbert, & Steinkuller, 2012). The physiological process of meiosis guarantees that human kind is genetically diverse (American Academy of Ophthalmology, 2006) and McLeod, Wisnicki and Medow (2000) noted that, “the paediatric population is susceptible to vision impairment as a result of congenital, hereditary, infection, inflammatory, and neoplastic

processes” (p. 19). Sociocultural theory further explains interpersonal variation (Woolfolk & Margetts, 2007). There is even diversity within a single ocular diagnosis. Given that a key premise of differentiation is that the educator should know their students (Department of Education, Tasmania, 2014a; Government of Alberta, 2010), it follows that educators must understand the specific needs of students with VI.

## **ADJUSTMENTS FOR STUDENTS WITH VISION IMPAIRMENT**

Instructional and environmental adjustments are particularly important for students with VI (Gale et al., 1998). Each child with vision impairment is unique and their individual needs must be considered. Many children with low vision for example, may require adjustments that provide magnification (such as use of a tilted reading stand to allow use of proximal magnification, large print, optical or electronic magnifiers, or screen magnification software) (Topor, Lueck, & Smith, 2004). Children with vision impairment may also require increased contrast (for example, via electronic means or adjustment of the appearance of the object/background), and/or modification of lighting (such as task lighting or moderation of glare) (Topor et al., 2004). Students who have severe low vision or whose visual prognosis is poor may use Braille or auditory learning media via a range of means and devices (Postello & Barclay, 2012), as well as tactual graphics (ViewPlus Technologies, Inc, 2014). Students who are deafblind have unique needs as, “both primary distance learning channels... are affected” (Staples, 2012, p. 368). Students who are deafblind may use Braille and/or an adapted form of sign language such as tactile signing, visual frame or other forms of augmentative and alternative communication (AAC) (Able Australia, 2007; Barry-Grassick, 2001; Senses Australia, 2014). Students who have a diagnosis of cortical (or cerebral) vision impairment (CVI) may require a range of adjustments depending on the cause of brain damage, the age of the child when the damage occurred, and the severity of the injury (Philip & Dutton, 2014). Adjustments for students with CVI may include provision of high contrast learning materials presented in particular colours or with visually enticing/reflective qualities, attention to visual fields and novelty, and a reduction in visual clutter, (Dutton, Calvert, Cockburn, Ibrahim, & McIntyre-Beon, 2012; Lueck & Dutton, 2015; Roman-Lantzy, 2007).

All students with vision impairment are likely to require additional time, and consideration of vision impairment in conjunction with other factors related to the child (such as systemic medical issues, family and cultural issues). When adjustments are provided within the context of appropriate assessment, consultation with the student and his/her family, and adequate student training, then students with vision impairment are likely to be able to access the content from the core curriculum (for example, the *Australian Curriculum*) at a level that is commensurate with their ability (Hatlen, 1996).

## **REASONABLE ADJUSTMENTS**

In the Australian context, the *Disability Standards for Education 2005* (Australian Government Attorney General’s Department, 2005) describe adjustments in terms of being “reasonable” (p. 10). The adjustments for students with VI described above would be considered reasonable, provided that they, “balance the interests of all parties affected” (Australian Government Attorney General’s Department, 2005, p. 10), through consideration of the nature of the disability, the perceptions of the student and their associate, the likely student benefits from providing the adjustment, the concurrent effect on other students, and the financial burden to

education providers. The adjustments would be documented in the student's Individual Education Plan (IEP) (Department of Education, Tasmania, 2014b).

### **CRITICISM OF THE AUSTRALIAN CURRICULUM**

ACARA (2013c) claims that the *Australian Curriculum* is inclusive, noting that, "all students are entitled to rigorous, relevant and engaging learning programs drawn from a challenging curriculum that addresses their individual learning needs" (p. 4). However, the *Australian Curriculum* (ACARA, n.d.), together with the *National Assessment Program - Literacy and Numeracy [NAPLAN]* (ACARA, 2013d), has attracted some criticism (ACARA, 2010; Insync Surveys Pty Ltd., 2010). Notably, the recent *Review of the Australian Curriculum: Final report* (Donnelly & Wiltshire, 2014), found significant deficiencies in terms of curriculum provision for students with disabilities and recommended that the inclusivity of the *Australian Curriculum* be improved. Leaders in the field of disability education have suggested that the specialised needs of students with disability have been overlooked in the *Australian Curriculum* (Lyons & Cassebohm, 2012; Muskovits, 2010). Similar concerns have been raised regarding *NAPLAN* (Chappell, 2013; Elliott, Davies, & Kettler, 2012; Shaddock, 2012).

### **THE AUSTRALIAN CURRICULUM AND THE ECC**

While much of the criticism related to the *Australian Curriculum* (ACARA, n.d.) has surrounded the needs of students with intellectual disabilities (Donnelly & Wiltshire, 2014), there are parallels for the cohort of students with VI. Firstly, it is well recognised that VI commonly accompanies intellectual disability (Kelley, 1998). Secondly, just as the *Australian Curriculum* (ACARA, n.d.) has been criticised for lack of curriculum provision for students with intellectual disability (beyond the General Capabilities), students with VI are similarly lacking explicit curriculum in the areas of the ECC. The ECC comprises the following domains: "compensatory or access skills, career education, independent living skills, O&M skills and concepts, recreational and leisure skills, self-determination skills, social interaction skills, use of assistive technology, and sensory efficiency skills" (Sapp & Hatlen, 2010, p. 339).

As noted by numerous authors (Hatlen, 1996; Lohmeier et al., 2009; Palmer, 2005a) and in Goal 8 of *The National Agenda of Children and Youths with Visual Impairments, Including Those with Multiple Disabilities...A Teacher Perspective* (Corn et al., 2002), every student with VI requires specialised, methodical and consecutive learning opportunities that address the ECC. While some of the skills and understandings of the ECC can be partially addressed via the *Australian Curriculum* General Capabilities (such as personal and social capability, and information and communication technology capability) (ACARA, 2013a), this cannot be considered adequate and is far from best-practice. Students with VI have a right to access as much of the disability-specific ECC as is appropriate to their needs, and this provision must be in addition to the *Australian Curriculum* (ACARA, n.d.).

The importance of the ECC for students with VI is emphasised in the Principles and Standards for the Education of Children and Youth with Vision Impairments, Including Those with Multiple Disabilities (South Pacific Educators in Vision Impairment [SPEVI], 2004) and the Professional Standards for Specialist Teachers (Vision Impairment) (SPEVI, 2015). These documents outline principles that can be used to plan service delivery and describe recommended standards of best practice for education of students with VI (SPEVI, 2004; SPEVI, 2015).

SPEVI asserts that students with VI have unique learning needs because vision, the main sensory channel for gaining information, is compromised (SPEVI, 2004; SPEVI, 2015). Moreover, SPEVI (2004) notes that the core curriculum should be made accessible without altering content, but rather, for example, through adjustments to instruction and environment. Furthermore, SPEVI notes that learning media of alternate format should be provided in a timely manner; and the ECC should be provided in response to individual student need.

It is generally accepted that VI does not prevent a child learning, but rather impedes access to visual information that would otherwise allow learning to occur (Ross, 2000). As noted above, the *Australian Curriculum* (ACARA, n.d.) specifies the process of adjustment in order to meet the needs of students with disability. However, in addition to the adjustments required for students with VI to access the core curriculum, it is apparent that the opportunity to engage with the ECC is necessary in order to comply with the *UN CRPD* (United Nations, 2006), the *Australian Disability Discrimination Act 1992* (Australian Government Attorney General's Department, 1992), the *Australian Disability Standards for Education 2005* (Australian Government Attorney General's Department, 2005), the SPEVI (2004) *Principles and Standards for the Education of Children and Youth with Vision Impairments, Including Those with Multiple Disabilities*, and the SPEVI (2015) *Professional Standards for Specialist Teachers (Vision Impairment)*.

The *Australian Curriculum* (ACARA, n.d.) specification that teachers should begin with age-appropriate learning area content and that this process must be used for all students without exception, impedes understanding that for some student cohorts, other learning needs are equally as important as the core curriculum, and indeed enable the core curriculum to be meaningful. The notation that, "some students' progress will be assessed in relation to their individual learning goals" (ACARA, 2013c, p. 6) does not do justice to the importance of ensuring common understanding of the ECC, provision of time, and specialist teaching in disability-specific skills and concepts, given that these are fundamental to the human rights of students with VI.

### **IMPLEMENTATION OF THE ECC DESPITE LACK OF RECOGNITION IN NATIONAL CURRICULA**

While there is limited recognition of the ECC amongst general educators, research suggests that the ECC is held in high esteem by teachers of students with VI in Australia (Brown & Beamish, 2012; Morris & Sharma, 2011; Palmer 2005a; Palmer 2005b). Responsibility for advocating for student access to the ECC lies largely with teachers of students with VI and their capacity to "work with colleagues to access specialist knowledge, and relevant policy and legislation, to develop teaching programs that support the participation and learning of students with disability" (Australian Institute for Teaching and School Leadership, 2014, p. 1). Research concerning implementation of the ECC in other parts of the world, suggests that the ECC may not always be implemented in a systematic way (Sapp & Hatlen, 2010).

### **SUPPLEMENTARY RESOURCES FOR OTHER COHORTS**

As previously noted, the *Australian Curriculum* (ACARA, n.d.) provides some information via the General Capabilities for those students who are not yet at Foundation level (ACARA, 2013a). Furthermore, there are specific guidelines and resources provided by ACARA (2013a) for "students for whom English is another language or dialect (EAL/D)" (p. 21). While EAL/D

students are not considered to have a disability, they are noted to require explicit teaching and, “additional time and support” (p. 21). The *Australian Curriculum* does not mention that children who may be learning Braille, using AAC devices, learning O&M skills or disability-specific technology skills may have similar needs for extra time, support and explicit teaching. Sacks and Rothstein (2010) asserted that in the United States, “a concerted effort must be undertaken to ensure that language acknowledging the essential nature of the ECC is included when IDEA is reauthorized” (p. 782).

In the Australian context it follows that the *Australian Curriculum (ACARA, n.d.)* documentation could be updated to clearly delineate the importance of the ECC (to be considered separately but simultaneously alongside the core curriculum), and the necessity of provision of extra time and specialised teaching to address the unique needs of students with vision impairment.

### **RAMIFICATIONS OF LACK OF RECOGNITION OF THE ECC**

Although vision impairment is a low incidence disability (Brown & Beamish, 2012), its presence has significant implications for learning. Vision is the major sensory channel used for gathering information (Lang, 2000; SPEVI, 2004) and for social interaction (Sacks, 2006). The ramifications of inadequate holistic support are significant and disability may be exacerbated (Hatlen, 1996). Waldron and Steer (n.d.) noted that vision impairment may result in, “exclusion from childhood experiences critical to learning” (p. 1). There are implications for the student’s social competence, independence, quality of life (Sapp & Hatlen, 2010), and prospects for obtaining employment (McDonough, Sticken, & Haack, 2006; Sacks & Rothstein, 2010). The *Review of the Australian Curriculum: Final report* (Donnelly & Wiltshire, 2014), acknowledged that the curriculum should further encourage diversity and provide schools with flexibility in curriculum delivery. If the *Australian Curriculum* is truly to embody the notion that, “each student is entitled to knowledge, understanding and skills that provide a foundation for successful and lifelong learning and participation in the Australian community” (ACARA, 2013c, p. 5), then it follows that the ECC must receive due recognition for students with vision impairment. As noted by Sapp and Hatlen (2010), “we are ethically responsible to give students the opportunity to gain skills in the ECC, so they have the opportunity to live up to their potential. Students deserve nothing less” (p. 347).

### **CONCLUSION**

In conclusion, this discussion paper has reinforced the premise that the ECC should be considered (separately and simultaneously) alongside the *Australian Curriculum* (ACARA, n.d.) for students with vision impairment (with or without additional disabilities). To improve common understanding and acceptance of the need for the ECC, acknowledgement of the ECC should exist within the *Australian Curriculum* documentation (ACARA, n.d.).

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# The implications of monocular vision on orientation and mobility

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A vision impairment affects an individual's ability to orientate his/herself in space and move independently in the environment (Helmets, 2015). Monocular vision, or the loss of vision in one eye, has a unique impact on orientation and mobility primarily due to visual field restrictions and loss of binocular depth perception (Loftus, Servos, Goodale, Mendarozqueta, & Mon-Williams, 2004). However, it is not just the loss of vision that affects people with monocular vision. Many other physical and psychosocial factors impact on the quality of life of a person with monocular vision.

The World Health Organisation (WHO) defines quality of life as a "state of complete physical, mental and social well-being" (WHO, 1997, p. 1). This article examines current literature to find the factors that impact on the quality of life of people with monocular vision and discusses how these factors will impact on their orientation and mobility. Recommendations for orientation and mobility instruction by providing best practice strategies for maximising functional vision in activities of daily living and mobility will be discussed.

## LITERATURE REVIEW

Early researchers believed that monocular vision was a minor inconvenience (Schiff, 1980) and little support was provided to rehabilitate adults or assist children with monocular vision (Buys & Lopez, 2004). This research did not take into account the impact that monocular vision had on everyday routines, education or employment (Brady, 1994; Kondo, Tillman, Schwartz, Linberg, & Odom, 2013).

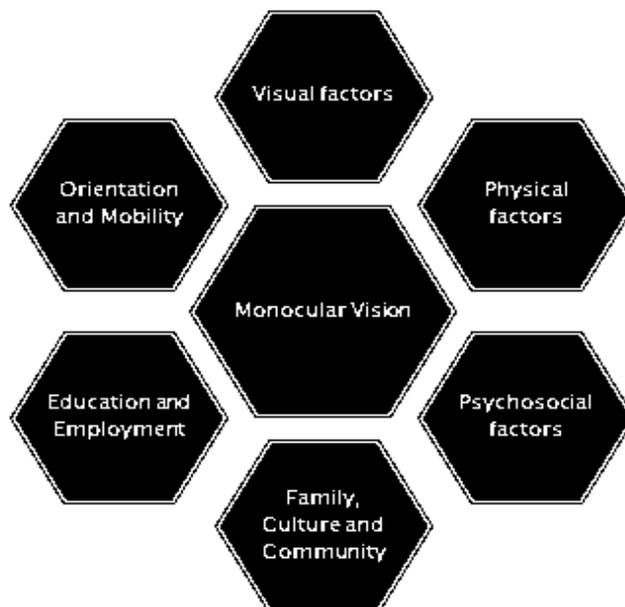
Current research suggests psychosocial factors have a significant impact on quality of life for people with monocular vision (Buys & Lopez, 2004; Hughes & Hughes, 2015; Kondo et al., 2013; Rasmussen, Ekholm, Prause, & Toft, 2012; Ye et al., 2015). Age of onset plays an important role in a person's ability to adjust to monocular vision (Ye et al., 2015). Further factors such as physical and cognitive ability of the individual (LaGrow, 1998), vision of the functional eye (Hughes & Hughes, 2015), the family's ability to cope (De Carlo, McGwin, Bixler, Wallander, & Owsley, 2012) and community and cultural beliefs about vision impairments (Silveira, 2014) affect quality of life for people with monocular vision.

## FACTORS THAT IMPACT ON QUALITY OF LIFE

As illustrated in Figure 1, Monocular vision will impact individuals in different ways (Hughes & Hughes, 2015). Understanding factors that impact each individual's quality of life help ascertain what is required for people with monocular vision to lead independent lives in their homes, schools, work and community (Keeffe, 2005).

**Figure 1**

Factors that impact on quality of life of people with monocular vision



## **VISUAL FACTORS**

Most people with near normal vision will have a horizontal field of 180 degrees (Brady, 1994; Hughes & Hughes, 2015). The loss of visual function of one eye restricts field of view to approximately 160 degrees (Hughes & Hughes, 2015; Politzer, 2015). Peripheral visual field loss inhibits information pertaining to where an object is in space and impacts ability to move safely in the environment (Avery & Hardy, 2014; Crabb & Viswanathan, 2005; Murata et al., 2013; Yamamoto & Philbeck, 2013).

Monocular vision results in a loss of stereopsis, the visual clue that enables the brain to judge distance and creates an image of depth perception (Ciuffreda, 1998; Hughes & Hughes, 2015; Palmer & Schloss, 2009; Saladin, 2005). This will affect spatial accuracy when reaching (Chen, Hove, McCloskey, & Kaye, 2005; Coull, Weir, Tremblay, Weeks, & Elliott, 2000; Dutton, 2013; Ekberg et al., 2013; Heinen & Vinken, 2011; Loftus et al., 2004) and balance (Chapman, Scally, & Buckley, 2012; Run Johannsdottir, Stelmach, & Lew, 2001).

Vision will be dependent on the health, acuity and visual fields of the functioning eye (Silveira, 2014). Health, safety and prognosis of the functioning eye is extremely important due to the already compromised visual system (Kelly, Gale, & Steeves, 2011).

## **PHYSICAL FACTORS**

Monocular vision that is due to a congenital vision loss may also impact on motor and vestibular development (Helmers, 2015; Telec, Boyd, & King, 1997). Neck posture (Havertape & Cruz,

1998; McLean, 2011; Nucci & Rosenbaum, 2002) and gait (Chapman et al., 2012; Vale, Buckley, & Elliott, 2008) may also be affected as children with monocular vision accommodate their body to visual field loss.

For people who lose vision in one eye at a later age, the brain needs to adjust to organise visual information without depth perception (Chapman et al., 2012; Chen et al., 2005; Ciuffreda, 1998; Saladin, 2005; Yamamoto & Philbeck, 2013). Acquired monocular vision has been associated with an increased number of injuries and falls (Ciuffreda, 1998; Rahi, Logan, Timms, Russell-Eggitt, & Taylor, 2002).

## **PSYCHOSOCIAL FACTORS**

Psychosocial adjustments play a central role in an individual's ability to experience quality of life (Haymes, Guest, Heyes, & Johnston, 1996; Keeffe, 2005; Scheiman, Scheiman, & Whittaker, 2007; Welsh, 2010; Wu, Nemesure, Hennis, & Leske, 2009). People without depth perception may appear clumsy and find everyday tasks involving reaching and grasping difficult (Chia, Mitchell, Rochtchina, Foran, & Wang, 2003; Ihrig, 2013b). Innate abilities, attitude, confidence and motivations, along with cognitive abilities may also impact a person's ability to cope with monocular vision loss (Haymes et al., 1996).

Age of onset of monocular vision impacts psychosocial adjustment (Ajuwon & Bieber, 2014; Tuttle & Tuttle, 2004; Welsh, 2010). Research has shown that individuals may experience more difficulty in adjusting to an acquired loss of vision, particularly if they have lost the ability to work or participate in sports and hobbies they once enjoyed (Ihrig, 2013b; Politzer, 2015; Rahi et al., 2002).

Participation in social interactions are affected by acquired monocular vision, such as recognition of faces (Kelly et al., 2011), interacting with others in a crowded room or restaurant (Politzer, 2015), pouring drinks and meal preparation (Buys & Lopez, 2004; Ihrig, 2013a).

Rehabilitation from acquired monocular vision may be a lengthy process, as individuals adjust to using their remaining vision in their environment (Hughes & Hughes, 2015; Sachs, 2010; Steeves, Gonzalez, & Steinback, 2008; Welsh, 2010; Ye et al., 2015). Children with monocular vision loss may be able to function better with many of these tasks, due to adaptations they have developed to negotiate their environment (Buys & Lopez, 2004).

The reasons for loss of vision may play an important role in how people with monocular vision cope with their new circumstances (Welsh, 2010). Cancer, chemotherapy, significant accidents, and cyclical stages of grief all affect a person's health and anxiety in different ways (Keeffe, 2005; Scheiman et al., 2007; Welsh, 2010; Wu et al., 2009). The cosmetic appearance of the non-visual eye, with or without a prosthetic, may affect how people with monocular vision perceive themselves (Ihrig, 2013a), particularly in teenage years (Buys & Lopez, 2004). Anxiety around losing vision in the functional eye is also a cause of anxiety in people with monocular vision (Kondo et al., 2013; Rasmussen et al., 2012; Ye et al., 2015).

Studies by Wolffe and Sacks (1997) have shown children with vision impairments are less likely to play team sports and engage in social and leisure activities than their peers. People with monocular vision can find many sports difficult due to lack of depth perception (Chen et al.,

2005; Coull et al., 2000; Ekberg et al., 2013; Heinen & Vinken, 2011), gait (Chapman et al., 2012; Vale et al., 2008) and balance (Chapman et al., 2012; Run Johannsdottir et al., 2001).

### **FAMILY, CULTURE AND COMMUNITY**

The support of family is important to the well-being of people with monocular vision (Ajuwon & Bieber, 2014; Brown, Galambos, Poston, & Turnbull, 2007). For children with congenital vision loss, families become an integral part of their early intervention support provision (Zajicek-Farber, 2013). A resilient family is able to cope with the additional needs of their child to develop independence and positive psychosocial attributes to participate in the community (Beardslee, Watson Avery, Ayoub, Watts, & Lester, 2010).

Cultural and religious views of the family may influence acceptance of people with monocular vision (Fazzi & Petersmeyer, 2001; Helmers, 2015). Within some cultures, a congenital disability is transcribed as a punishment for a sin against an ancestor (Cantle Moore, 2013), as a consequence of 'marrying wrong' (Cantle Moore, 2013) or eating the wrong foods while pregnant (Gentle, 2015b). A positive attitude towards disability is essential for building a positive self-concept for people with monocular vision (Chen, 2004).

### **EDUCATION AND EMPLOYMENT**

Inclusive school settings which foster inclusion and opportunities for people with monocular vision are paramount to developing positive quality of life (De Carlo et al., 2012; Sachs, 2010; Wolffe & Sacks, 1997). Loss of visual fields create impairments in visual scanning or tracking when reading, therefore slowing reading speed (Murata et al., 2013; Trauzettel-Klosinski & Brendler, 1998). This may result in extra time taken to access to information and visual fatigue for the person with monocular vision (Gentle, 2015a).

Monocular vision loss can create vocational problems in terms of career opportunities or difficulty in carrying out tasks within required timeframes (Chia et al., 2003; Rahi et al., 2002). Jobs requiring use of machinery or power tools, for example, may not be safe for people with monocular vision (McLean, 2011) and such occupations as commercial pilots are ruled out (Buys & Lopez, 2004). Adaptions and modifications made to the workplace can significantly assist people with monocular vision to carry out work-related activities (Blind Citizens Australia, 2013).

### **ORIENTATION AND MOBILITY**

Lack of visual fields and depth perception make it more difficult for people with monocular vision to accurately judge distances to objects and distinguish features of landmarks (Ihrig, 2013b). Manoeuvring through crowds of people or a classroom of chairs can be difficult without depth perception (O'Neill et al., 2011; Politzer, 2015). Hazards in the reduced field may be dangerous and potentially cause injury. Changes in gradient, steps and curbs may also be difficult to see and judge depth (Chapman et al., 2012; Rosen & Crawford, 2010).

The ability to travel independently may be affected, particularly when crossing roads and driving (Elgin et al., 2010). Depending on remaining vision, people with monocular vision loss may still be able to drive, however judging distances between cars, oncoming traffic and pedestrians

along with reversing, overtaking and turning corners may be difficult for drivers and add stress to passengers (Coeckelbergh, Brouwer, Cornelissen, Peter van, & Kooijman, 2002; Elgin et al., 2010; Guttman Krader, 2014; Peli & Bowers, 2009). Loss of hand-eye coordination and spatial awareness may make daily routines more difficult; such as grooming, applying makeup, food preparation and pouring drinks (Ihrig, 2013b).

## **IMPLICATIONS FOR ORIENTATION AND MOBILITY**

### ***Maximising visual potential***

Binocular vision enables the brain to establish the body's relationship to the environment by facilitating depth perception necessary for reaching, balance and manipulation of objects (Poltzer, 2015). In the absence of binocular vision, monocular cues should be taught to people with monocular vision to maximise spatial information (Saladin, 2005). People with monocular vision can be trained to use subtle head movements to enable depth perception (Goldstein, 2002; Ihrig, 2013a; Nakashima & Shioiri, 2014). By moving the head horizontally or vertically, "two slightly different views of the same subject in such rapid sequences that the brain can interpret them, much the same as it would interpret a double image produced by two eyes" (Brady, 1994, p. 43). Items in the foreground will move more quickly and items further away will move more slowly (Blaze, 2015; Saladin, 2005).

Compensatory skills to maximise functional vision are important skills for people with monocular vision (LaGrow, 2010; Loftus et al., 2004). Compensatory skills include scanning with eyes, head and body to ensure visual fields are included in judgments of distance and space (Fazzi & Petersmeyer, 2001). Scanning techniques taught by an Orientation and Mobility specialist have been found to be particularly useful for detecting obstacles and maintaining independence for mobility, sports and driving (Coeckelbergh et al., 2002; Ihrig, 2013a; Pambakian, Wooding, Patel, Morland, & et al., 2000; Schwartz, 2010).

People with monocular vision can also measure relative distance of an object, by occlusion, which determines which items in the foreground based on the closer items occluding the shape of the items in the background (Goldstein, 2002). Relative size of known objects, textures, gradients and shadowing will all give people with monocular vision cues for the object's location (Stone, 2012). Multiple cues can be used to gain as much spatial information and perspective from the environment as possible (Brady, 1994).

### ***Mobility***

An important part of mobility instruction is to assist people with monocular vision in understanding their limitations of visual field and how to compensate for the field loss (O'Neill et al., 2011). Encouraging walking with the wall or a friend on the side of visual loss, for example, can provide security for people with monocular vision (Ihrig, 2013b). Mobility instruction should include protective techniques for upper and lower body (Helmets, 2015).

Practicing walking up, down and along foam shapes of many gradients, or in a gymnastics pit, for example, will assist with exploring uneven surfaces (Jones, 2015). Rolling balls down gradients or throwing them down steps, will support people with monocular vision in finding out as much spatial information as possible about items in their everyday environment (Gentle, 2015a).

Familiarising people with monocular vision with different terrains and careful guidance of areas they need to frequent will also create confidence (Fazzi & Petersmeyer, 2001). Ascending and descending steps should be explicitly taught with the concepts of holding onto the handrail and using toes to find the edge of steps (Ihrig, 2013b). People with monocular vision should be informed to use their feet as a cue to the location of their body in space (Helmers, 2015). Curbs and changes of gradients should be felt in the toes. Adequate markings and good lighting should also be considered where possible (Run Johannsdottir et al., 2001).

A referral to the physiotherapist may be required for any additional physical issues that may co-exist with monocular vision, particularly issues of gait and posture if veering when walking in straight lines (Helmers, 2015). A physiotherapist can also help with balance issues that may impact mobility due to loss of depth perception. Throwing and catching activities, balance boards, obstacle courses and jumping on trampolines are good activities to encourage balance, gait and posture (Lieberman, Haegele, Columna, & Conroy, 2014).

Practicing safe travel routes and use of compensatory scanning and monocular cues are extremely important to work out the distance of cars and pedestrians along a road (Brady, 1994). Concerns have been raised by Dowling (2013) pertaining to the very quiet motors of electric cars and the implications for detection of the vehicles by people with vision impairment. Use of an identification cane by people with monocular vision may allow others to recognise that the individual is having difficulty functioning in this environment (Helmers, 2015).

Factors that improve driving performance include scanning techniques (Fazzi & Petersmeyer, 2001), use of monocular cues (O'Neill et al., 2011) along with slowing down (Coeckelbergh et al., 2002), driving in familiar places (Guttman Krader, 2014) and careful selection of vehicles with smaller pillars for good visibility (Brady, 1994). Reversing sensors (Gray & Regan, 1998) and special mirrors (Ihrig & Schaefer, 2007) can be retrofitted to the car to make parking easier for people with monocular vision.

### ***Daily Living***

Routine skills such as reading, reaching for objects, scanning an environment and social occasions can be more difficult for people with monocular vision (Ihrig, 2013b). Specific tasks that impact on quality of life should be assessed for each individual and programs designed to include facilitation of compensatory techniques (Buys & Lopez, 2004; Yamamoto & Philbeck, 2013).

Location in a classroom, workplace or social setting with the functional eye towards the information will maximise visual efficiency for people with monocular vision (Ihrig & Schaefer, 2007). Considered positioning of objects on workbenches and kitchen cupboards are useful adjustments for people with monocular vision. Placement of books, using rulers and adaptive technologies such as computers, iPads and screen readers can assist with tracking difficulties in reading caused by monocular vision and assist individuals to participate at the same level as their peers in the school and workplace (Vision Australia, 2012).

Monocular cues such as movement of the head and compensatory techniques, such as scanning can be used for judging distances, which may be useful for participation in sports and hobbies (Nakashima & Shioiri, 2014; Saladin, 2005; Yamamoto & Philbeck, 2013). Sports with bigger balls to allow hand eye coordination or sports with a stationary target, such as darts or archery may be the easiest sports for people with monocular vision (Ihrig & Schaefer, 2007).

Consideration of position on the outfield will also help with participation in team games. Activities involving tools or gardening should consider safety of the remaining eye with protective glasses (Guttman Krader, 2014). For near vision activities such as grooming and applying make-up, vision can be improved with magnifiers (Buys & Lopez, 2004) and good lighting may also assist (Run Johannsdottir et al., 2001).

The social support of friends and family is very important to the quality of life of people with monocular vision (Brady, 1994; Scheiman et al., 2007). Discussing vision-related limitations and providing simulation activities with friends regarding facial recognition (Kelly et al., 2011) and crowded areas (Helmers, 2015) may be beneficial to help others understand the implications of visual field loss. Providing alternative strategies to participate inclusively in sport, social and recreation activities will positively influence quality of life of people with monocular vision (Cochrane, Lamoureux, & Keefe, 2008).

## CONCLUSION

Monocular vision will affect spatial awareness by reducing visual field and compromising depth perception. The impact of monocular vision on an individual's quality of life will be determined by physical and psychosocial factors associated with the nature of the vision impairment and by the influence of family, culture, the workplace, educational setting and community. By assessing activities of daily living and mobility that effect people with monocular vision and teaching skills to address these individual limitations, Orientation and Mobility specialists can positively impact on the quality of life of persons with monocular vision.

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## Two critical reviews of recent literature in the field of vision impairment

**A Critical Review of D'Andrea, F. M. (2012). Preferences and practices among students who read braille and use assistive technology. *Journal of Visual Impairment and Blindness*, 106(10), 585-596.**

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Utilising research about the educational use of assistive technology by students with vision impairment to access computers (Corn & Wall, 2002; Farnsworth & Luckner, 2008; Fellenius, 1999) and recognising the importance of technology in school and personal life, D'Andrea investigated the current academic use of paper braille and assistive technology among twelve blind, braille-using students aged 16-22 in the United States, and their practice and attitudes regarding such use. Her results suggest a varying nature to how students used a range of high and low tech tools, and how their approaches to completing class work were largely influenced by their personal opinions and experiences of the technologies. The study also demonstrates the importance of students' choice-making ability regarding the selection of tools and strategies.

The students' ability to take advantage of the options available to efficiently complete tasks was influenced by their proficiency in a variety of technologies, as all acknowledged using a multiplicity of tools in learning environments. Recent discussion by Hong (2012) on the potential for increasing access to many of the capabilities of mainstream technologies utilising universal design features through pairing with braille displays- as opposed to the use of only a dedicated braille notetaker- underscores the importance of the ability of students with vision impairments to combine technologies to serve their particular need. In D'Andrea's (2012) study, ten of the twelve participants used a dedicated braille notetaker, though some noted the inherent difficulties of the cost as well as servicing by specialist companies only: "[Braille] notetakers are good but I personally recommend laptops over a notetaker... they're a lot cheaper... [and] if something goes wrong you can have someone look at your computer and you can't really do that with your notetaker" (D'Andrea, 2012, p. 591). It should be noted that dedicated braille notetakers such as the Humanware BrailleNote Apex (Humanware, 2015) and the HIMS BrailleSense U2 (HIMS Incorporated, 2015) also function as braille displays for another device such as an iPad or laptop.

D'Andrea's (2012) study reveals that as the participants were largely heterogeneous in regards to their technology use and viewpoints, it is "critically important to provide students with as many tools as possible" (D'Andrea, 2012, p. 595) in order to best meet their needs and approaches. There was wide variation in technology types and the tasks for which they used them. Significant differences also existed within the ways they learnt to use them and within the participants regarding their braille reading acquisition and skills. No information regarding their visual status was given. While participant numbers were low (12), D'Andrea attempted to ensure they came from a range of schools and locations across the US. As D'Andrea chose to discuss some of the results in a qualitative manner, rather than publish the entirety of quantitative data gained, the report lacks the representation of all information. Providing the quantitative data in

charts or graphs would have offered the reader a richer understanding of the study's results. However, the applicability, quality of research and level of knowledge provided by this investigation is worthy of attention by students with vision impairments and their teachers. D'Andrea's intelligent questioning and analysis provides practical knowledge and discourse about how and why the students employed which technologies for which tasks, and their variant preferences for and opinions about braille and technology. This understanding of assistive technology use should critically influence the teaching of assistive technologies in primary and secondary schools and the emphasis on its importance for students with vision impairments to independently access and complete schoolwork to increase their success in school and post-school options (Wolffe, 1998). D'Andrea's awareness of the heterogeneity of her participants, the variances in their use of technology and the wide range of technology now available indicates the need for further research in this area regarding the effective teaching of technology as well as informed decision-making about which to use for which tasks.

To summarise, this study provides influential information comparing the variation in attitudes of braille-reading young adults and usage of a wide range of technologies to read and access information at an academic level. Despite the small number of participants and the lack of quantitative data presented, the study fills a critical gap in current knowledge about assistive technology use.

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**A critical review of Kelly, S. M., & Smith, D. W. (2011). The impact of assistive technology on the educational performance of students with visual impairments: A synthesis of the research. *Journal of Visual Impairment & Blindness*, 105(2), 73-83.**

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In their research, Kelly and Smith analysed 256 articles from 1965-2009 on the use of assistive technology by people with vision impairments, to reveal if evidence-based research was used. Kelly and Smith analysed the articles to discover the knowledge base of the research previously conducted to determine the usage of assistive technology by students for educational means. Secondly, they wanted to determine if the findings were based upon thorough scientific-based methods. The articles analysed research of pre-school to high school students, ages 3-21, who had a visual impairment. Kelly and Smith found that just two of the 256 articles utilised evidence-based research. Furthermore, the use of 'rigorous, scientific-based methods' to determine the effectiveness of the students' use of assistive technology was virtually nil (p. 79).

The methods employed by Kelly and Smith established specific criteria for their research, including utilising terminology consistent with legislation in the USA: 'assistive technology' and 'assistive services' as defined by IDEA (Individuals with Disabilities Education Improvement Act 2004, as cited in Kelly & Smith, 2011, p. 75). The authors also defined 'assistive technology research' as used in their study (p. 75). Kelly and Smith's selection criteria limited them to refereed journal articles, published in English between January 1965 and August 2009, on assistive technology used by students with vision impairments. They searched four relevant electronic databases using Boolean search methods and manually searched the historic articles of two other journals. Next, they searched the reference lists of all journal articles to locate more articles. Lastly, they reviewed each study for a control/comparison group and rejected many due to not meeting selection criteria (e.g. outside of age range).

Kelly and Smith stated that in order to be included in a student's Individualised Education Program (IEP), either assistive technology needs to stipulate clear benefits or be based upon scientific proof that the assistive technology provided will positively affect a student's learning. Only two of the 256 articles had adequate information "to determine the effectiveness of an intervention with appropriate participants, intervention, control group, and comparison group" (p. 77). Forty-seven articles were excluded due to not conforming to their criteria. More than half of the articles did not have research designs or methods. Only 17% of the articles included a control/comparison group and interventions, most of which were case-studies. Within all articles reviewed, Kelly and Smith found there were no replications of previous studies. Kelly and Smith recommended that studies should be replicated and researchers should adhere to 'high standards' (p. 81). Interestingly, the authors expanded their 2011 research by a subsequent study which focused on the literature from 2009-2013 (Smith & Kelly, 2014). The authors' subsequent study is not addressed in the article critique.

Kelly and Smith acknowledged some limitations of their research. First, it was not new information, but a review of existing literature. Second, their specific selection criteria limited the number of studies reviewed. The articles rejected by the criteria could be included in future scientific research, to gain a greater level of knowledge.

Overall, Kelly and Smith's contribution to future researchers and the field of vision impairment is substantial. Their research reinforces the significance of adhering to evidence-based scientific evaluations and procedures, in accordance with such government legislation as the United States' *No Child Left Behind Act*, 2001 (Zucker, 2004). The research Kelly and Smith conducted revealed a large knowledge base regarding students with a vision impairment who use assistive technology for education within the classroom. However, there were few scientific-based methods used in related fields of research.

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## REPORT: SPEVI Online

Phia Damsma

*SPEVI List and Web administrator*

SPEVI's online presence enables you to stay involved with your organisation in a range of ways.

The **SPEVI News List** is an email subscription list. You can post and read news when you are subscribed to the List. Send an email to [webmaster@spevi.net](mailto:webmaster@spevi.net) with subject: "subscribe to list". Please use the email address that you would like to be subscribed with. Through the List you will also receive updates and news from SPEVI, including about the next SPEVI Conference (Brisbane, Jan 2017).

The dynamic **SPEVI Facebook Page** has come to replace the SPEVI Blog. The latest FB post is embedded on the Homepage of the SPEVI website, for those of you who are not on Facebook. Search for SPEVI on Facebook, or you can jump to our page by following this link: <http://www.facebook.com/SouthPacificEducatorsinVisionImpairmentInc>. For a fully accessible version which can be accessed both on PC's and mobile phones, follow this link: <https://m.facebook.com/SouthPacificEducatorsinVisionImpairmentInc>.

SPEVI's Facebook Page is under the expert editorship of Ben Clare and Karen Gilligan. Ben announced the launch: "... Like our page to keep up to date on what's happening in the field of vision education in Australia, New Zealand, the Pacific region and around the world. We also encourage you to share your education related news by posting on our wall. SPEVI's social media venture is designed to promote our work in addition to the existing website and mailing list, to connect with our members and friends throughout the region and to attract membership from organisations and individuals who can boost our knowledge and capacity to deliver quality information to those of us committed to barrier free education for people with visual impairment, hard of hearing and people with additional disability. The page will be updated regularly and we hope it will be interesting and useful to our subscribers."

Finally, the **SPEVI website** has had a complete overhaul. The new website contains lots of new information and highlights the professionalism of SPEVI members. The inaugural SPEVI website was created late 2011. The changing needs of SPEVI as a growing organisation were impacting on the specifications and demands for the structure and setup. In August 2015 the new SPEVI website has gone 'live'. It uses WordPress, has a new structure and, of course, boasts high level accessibility. The website uses responsive design, meaning that it presents itself differently to best suit the device on which you are visiting the website. The new website aims to reflect SPEVI's new visions and course. We are confident that it will be able to support SPEVI for the next few years. Please visit the new website at the old familiar web address [www.spevi.net](http://www.spevi.net). If you have any concerns regarding accessibility, or suggestions for new content, please do not hesitate to contact me via [webmaster@spevi.net](mailto:webmaster@spevi.net).

## **REPORT: New app helps children with vision loss communicate**

Annette Clarke

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On World Sight Day, Thursday 8 October 2015, the Royal Institute for Deaf and Blind Children (RIDBC) officially launched a new app to help children with vision loss and additional needs develop the sign language they need to communicate.

RIDBC is a charity and Australia's largest non-government provider of therapy, education, cochlear implant and diagnostic services for people with vision or hearing loss, supporting thousands of adults, children and their families, each year.

The 'Adapting Signs' app, developed by a team of vision loss and technology specialists at RIDBC, helps children with vision loss and significant developmental or intellectual impairments, develop the key signs they need to communicate with their families or carers.

RIDBC is committed to using mainstream technology such as the iPad to improve access for children with vision or hearing loss. Adapting Signs was developed in response to the experience RIDBC's team of specialists had whilst working with children in special schools, many of whom had not developed speech.

It was recognised that the professionals and families supporting these children were often using sign language to encourage communication. However, as a significant proportion of these children had vision loss, traditional signing methods weren't proving to be accessible as the children couldn't see the signs clearly to learn them. RIDBC was keen to develop a tool that would support a child with vision loss who needed to use expressive signs to communicate.

Adapting Signs helps families and care-givers adapt signs to better support the communication of children with various levels of vision loss as well as significant additional disabilities. The app allows users to tailor signs to suit their specific needs, with video recording functionality built-in so that a new sign can be recorded and shared with other care providers for that child.

Whilst RIDBC acknowledges that adapting signs may result in children using signs that are not universal, it is important to note that all children have the right to communication that is meaningful to them and that they can access and produce effectively. Children who have vision loss and significant additional needs may require a few individualised key signs to communicate their needs with families and care providers.

With a transdisciplinary team of specialists, RIDBC always works collaboratively with parents, carers and children to ensure its education, therapy and cochlear implant services are tailored to meet individual needs and stage of life.

The focus for the project has been on supporting families with an experience that simplifies communication, giving children the tools they need to express their needs, emotions and thoughts.

To find out more or to download the app, visit: <https://ridbc.org.au/adapting-signs>.

## REPORT: Sonokids Ballyland Magic App

Phia Damsma

*Creative Director Sonokids Australia, [www.ballyland.com](http://www.ballyland.com)*

For more than 15 years, Sonokids' has been developing educational games with 'Inclusive Design', enabling children to play and learn together, regardless of a vision impairment. "Stay Still, Squeaky!", published in January 2015, is Sonokids' first accessible, interactive audio eBook for Android and iOS touch screen devices. It requires only two simple touch gestures to interact with the story and does not use VoiceOver. Sonokids is happy to report that "Stay Still, Squeaky!" was shortlisted as a finalist in the 'Most Accessible Children's App' category of the 2015 'Apps for All Challenge' awards, by the Australian Communications Consumer Action Network (ACCAN). The Ballyland Magic App for iPad is the next venture of the Ballyland software into apps for mobile touch screen devices. The Magic App aims to engage both children and their adult carers and educators, in order to enjoy play and learning together.

The Magic App is an introduction to the special touch gestures you need to use with VoiceOver, the built-in accessibility feature on iPad. The Ballyland Magic App simulates VoiceOver, without actually using it. This allows for more flexibility and support in the child's learning process. The app enables children who are blind to safely try and train the special (navigation) touch gestures for VoiceOver in an interactive game environment. The app features the popular Ballylanders and uses self-voicing by real voices. The game play is completely audio based, with songs and sound effects, clear spoken instructions and encouragement, colourful images and animations, and a talking virtual guide or "Game Mate", which was first introduced in the Sonokids All Abilities ePlayground. Through interaction with the screen, step-by-step the child will learn new touch gestures, while he or she follows the Ballylanders in their preparations for a performance in a Magic Show. The actual show is the grand finale of the app – one in which the child can demonstrate effective fundamental skills in navigational touch screen gestures for future use with VoiceOver.



A theatre stage with a sign saying 'Ballyland Magic App' and showing Squeaky in a magic high hat. Get the Ballyland Magic app from the App Store

The design of the Magic App is geared towards involving parents and teachers in the learning process of the child. The purpose is to explore, discover and learn together. A child benefits most from the app with guidance on how exactly to perform the touch gestures for VoiceOver. The app comes with suggestions to help the child prepare for the use of the app through the

development of concepts and skills: intellectually, developmentally and practically. The app itself also offers a fun song to practice the single finger double-tap touch gesture by way of tap-tapping in sync with the beat. Through the app, Sonokids also aims to make sighted people think more positively about VoiceOver, and be more supportive of young children who are blind learning to use it.

The Magic App aims to break down barriers by helping to make the “magic” gestures for VoiceOver easier for children to learn and more widely known among sighted support staff. Come on, get ready, and then learn some magic tricks. Together we can make it much easier and more common for children who are blind to become tech wizards in their own right.

## **ACKNOWLEDGEMENTS**

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# **REPORT: Video Conferencing: A summary of the VidKids™ Pilot Project at Vision Australia**

Geraldine Ryan

*State Practice Leader, Children's Services, Victoria, Vision Australia*

## **WHAT IS THE VIDKIDS™ PILOT PROJECT?**

The VidKids™ pilot project aimed to provide improved therapy services to children with vision and/or hearing impairments living in rural and remote Australia. It was a national initiative funded through the federal Department of Social Services (DSS) which utilised the National Broadband Network (NBN). The project commenced on 1<sup>st</sup> July, 2012. Vision Australia was part of the Alliance network of which there were 8 organisations. Our service providers delivered video therapy sessions to children and families in the comfort of their home.

## **CLIENT STATISTICS**

Vision Australia trained 27 service providers across the organisation to deliver video conferencing services. This allowed for access to a wide variety of health professionals including: occupational therapists, physiotherapists, speech pathologists, counsellors, adaptive technology trainers, early childhood specialist teachers and orientation and mobility specialists. Vision Australia set up Video Therapy Rooms in 11 of our offices across NSW, QLD and VIC. We had clients from Darwin in the north, to Tasmania in the south and everywhere in-between. The specific state breakdown of clients at the end of the project is outlined below:

- QLD: 25 clients
- VIC: 3 clients
- NSW: 3 clients
- SA: client
- NT: 2 clients
- TAS: 1 client

The age range of children on the pilot project was from 0- 18 years of age, with a spread of children across all ages. At the completion of the project, the breakdown of age ranges was:

- 0-6 years: 9 clients
- 7-12 years: 19 clients
- 13 -18 years: 7 clients

## **SERVICE DELIVERY**

All children and their families on the project set clear goals about what they wanted to achieve and these were documented in their individualised service plan. Some examples of common goals were: learning to throw/catch ball, tying shoelaces, develop age-appropriate reading skills and learn to write name. Over 90% of the children achieved at least one of their goals with many children achieving multiple goals during the project. We were able to offer one-on-one video therapy sessions as well as some group sessions, however the majority were one-on-one. We set up a group for teenagers in their last years of schooling and this group focused on the

challenge of planning for life after school and potentially finding work. The VidKids™ project also provided families the opportunity to feel more connected with the service and engaged as they were able to receive a regular service, rather than their once/twice a year outreach visit to the area.

## EVALUATION SURVEY

In April, 2015, the families participating in VidKids™ across the entire alliance network were asked to complete a client satisfaction survey. They were asked to answer questions about their perception of video conferencing as a method of service delivery, if session frequency was appropriate, if the pilot was beneficial, the least positive aspect and the most positive aspect of the project. The results were as follows:

1. 65% of families were satisfied with video conferencing as a service delivery method
2. 75% were satisfied with the frequency of sessions
3. 86% of families thought the program was beneficial
4. The least positive aspect of the project was: technology/internet performance
5. The most positive aspect of the pilot project was: goals being achieved and/or quality of service provided.

Here are some quotes from families about the positive aspects:

“Getting some great tips on how to improve some fine motor skills (e.g. how to talk her through how to tie shoelaces). Without the video conferences we wouldn’t have had any help with OT. We have definitely made progress with things with this help. Thank you!”

“I feel the therapists are always there if I need them for any matter relating to my child’s development. They have helped my child reach goals in reading and writing that I feel I couldn’t do on my own”.

“Seeing our daughter’s therapist fortnightly was great. It ensured continuity of service and allowed us less travelling days and expense”.

## WHAT NEXT?

The VidKids™ pilot project ended on 30<sup>th</sup> June, 2015. We have been able to learn a great deal about delivering services via this method. We have found what works well via video and what still needs to be completed with face-to-face assessment. We have handled many of the challenging IT issues and service providers are now confident in providing basic level IT support to families. At the project’s conclusion, we had 35 clients that received a regular video conferencing service. 20 of these families continue to receive a video service, as decided by the parents. This service level is reflective of their individual goals, needs, and in line with the guidelines of the Children’s Services Model. Vision Australia is continuing to train all remaining Children’s Services staff in the use of video conferencing. The aim for the future is for all staff to be able to offer this as another alternative service delivery method providing increased choice and control to our clients. The pilot project has been a very positive and valuable experience for all involved.

## **REPORT - Vision Australia**

Geraldine Ryan

*State Practice Leader, Children's Services, Victoria, Vision Australia*

### **UPSKILLING OUR STAFF IN DEVELOPMENTAL ORIENTATION AND MOBILITY (O&M)**

Vision Australia recently delivered a two week intensive developmental O&M training program for current Orientation & Mobility Specialists (O&MS). The provision of developmental O&M in the early childhood years has undergone significant change and advances in recent years. Therefore it is vital that O&Ms working in this field have the opportunity to update their current knowledge and practice of O&M in order to deliver best practice to clients and their families. The training program was based on an accredited unit of training (OAMCHI807A Conduct developmental orientation and mobility for early childhood clients from the 10311NAT) in the Graduate Diploma of Orientation and Mobility delivered by Vision Australia's Registered Training Organisation.

Program topics included:

- Updates in early childhood frameworks and practice
- Motor, Concept and Sensory Development
- Developmental O&M Assessment
- Promotional Model of O&M
- Long cane use in early years
- Implementing O&M Programs with infants and toddlers
- O&M in Early Education & Primary School Settings
- Transdisciplinary Practice
- Cortical Vision Impairment
- O&M for children with multiple disabilities

Practicing O&MS from across four states currently working with Vision Australia were delivered a program led by a range of experienced professionals from the field. These professionals included Early Childhood Specialist Teacher, Paediatric Physiotherapist, and Paediatric Occupational Therapist as well as experienced Children's O&M Specialists.

### **NATIONAL DISABILITY INSURANCE SCHEME (NDIS)**

The National Disability Insurance Scheme (NDIS) provides individualised support for eligible people with permanent and significant disability, their families and carers.

The National Disability Insurance Scheme was launched on 1 July 2013 across four locations: the Barwon Region in Victoria; the Hunter Region in NSW; and the entire states of South Australia and Tasmania. From 1 July this year, NDIS trial sites have launched in the ACT, Northern Territory and Western Australia.

Vision Australia's offices in Geelong VIC, Newcastle NSW and Canberra ACT which fall within the trial sites are providing services to clients through the scheme. Children and families are

working with us to identify their goals and aspirations, and their supports and needs. When they register with the National Disability Insurance Agency (NDIA) they are then well prepared and supported through the planning process. Children and families have packages of support with the NDIA that include supports in the community and home and equipment to help them achieve their goals.

“The process is very hard in the beginning but it was great to have VA so informed, and helping us with the NDIS.” Parent of a 12 year old child.

“It has been good to have my braille course paid for and all his equipment.” Parent of a 3 year old child.

“We can now go out without her having to always hold my hand We are practicing with the O&M to start walking to school. The cane goes everywhere with her, she even put pink butterfly stickers on it.” Parent of 6yr old child.

More information about Vision Australia and the NDIA:

<http://www.visionaustralia.org/living-with-low-vision/adults/ndis>

## **REPORT: Statewide Vision Resource Centre (SVRC)**

Debra Lewis

*Manager, SVRC, Department of Education & Training (DET), Victoria*

As the leading provider of support to Victorian school-aged students with vision impairments, the SVRC provides resources, professional development and training, educational programs and a community hub for approximately 550 students along with their schools and families. It is also the professional support centre for the 55 Visiting Teachers (VTs) who support students in DET, Catholic and independent schools.

In line with DET's strategic direction, the staff of the SVRC is committed to promoting inclusive practices in schools to better support children with vision impairments.

### **ELIGIBILITY, SUPPORT AND SERVICES**

The internationally acclaimed Educational Vision Assessment Clinic (EVAC), a collaboration between DET and the Royal Victorian Eye and Ear Hospital, is responsible for identifying students who require additional educational assistance due to vision impairment. It also provides accurate and current information about children's vision.

A student found to be eligible for additional support is entitled to the services of the SVRC including provision of materials in alternative formats, and access to the technology lending library and educational programs which focus on the expanded core curriculum for students with vision impairments.

Eligible students may also receive educational support from a VT and additional funding or grants to support their learning.

### **PROFESSIONAL LEARNING**

Responding to the changing needs of our community, the SVRC is now offering more professional learning opportunities and training sessions online or via video conference, in addition to the traditional face-to-face method.

For example, the SVRC YouTube channel provides on-demand learning opportunities in a range of access technologies including braille translation software, iOS accessibility and teaching voice software to beginners.

Online resources also feature interviews with adults with vision impairments and other post-school and careers-related materials.

SVRC staff have also provided four online lectures through RIDBC Renwick Centre. These lectures are available internationally and cover topics such as the role of the VT and technology for students who are blind or have low vision.

## **EDUCATIONAL PROGRAMS**

Support Skills at the SVRC offers tailored individual and small group sessions to approximately 80 students from year 4 to year 10. Specialist teachers provide technology, PE, Art, braille (including maths and music), living skills and O&M sessions to support each student's successful inclusion in their local schools.

Dot Power is offered to students from kinder to year 3 and provides a day of braille immersion for the younger students. Themes range widely and may include the Paralympics, the orchestra or preparing the family meal. Our aim is to get as much braille under the fingers of the children, and to build community for the children and their families.

Both programs are also open to teachers, aides and family members as a professional learning opportunity.

## **MATERIALS IN ALTERNATIVE FORMATS**

Access to information for Victorian students with vision impairments is improving all the time. The SVRC has a busy transcription department producing braille, audio and electronic text for students from prep to year 12 including senior Mathematics, Physics, Music and languages.

The SVRC lending library has made hundreds of items of technology available to students in government schools, meaning that students have more immediate access to their learning materials than ever before. Training in the use of this equipment has also been a priority for staff of the SVRC and VTs.

A greater awareness and understanding of information access within the wider community, coupled with improvements in off-the-shelf accessibility, is resulting in an increasingly inclusive learning environment for students with vision impairments.

## **TO CONCLUDE**

A highlight for SVRC staff, following the introduction of UEB to the USA, was being invited to proofread "Ashcroft's Programmed Instruction: Unified English Braille" by the Braille Authority of North America (BANA). It was a challenge and an honour that we relished!

And we were all delighted when a proud parent shared the NAPLAN results of their youngster, who is learning along with her sighted peers at the local school, with support from VT and SVRC. Working from a braille paper, not only did this student achieve results well above the national average in all aspects of the testing (reading, writing, language conventions and numeracy), but her knowledge of grammar and punctuation were "off the scale"!

## **REPORT: South Australian School for Vision Impaired (SASVI)**

Sheila Klinger

*Principal, SASVI*

### **SASVI'S MISSION:**

To demonstrate leadership and best practice in the delivery of education programs for students with vision impairment.

### **OUR VISION:**

A service where highly trained staff, parents and relevant agencies collaborate to provide students with access to the Australian Curriculum and expanded core curriculum for students with vision impairment, which enables them to achieve to their full potential.

2015 began with an excellent South Pacific Educators in Vision Impairment (SPEVI) conference in Melbourne which was attended by 11 members of staff and four parents. The standard of keynote presentations delivered by eminent overseas experts was outstanding. It was particularly exciting to be able to include parents from the SASVI Service this year for the first time. This conference had a number of parent representatives and their presentations gave a family perspective that was valuable for academics, ophthalmologists VI educators and agencies to hear and reflect on. The attendance and networking opportunities for our parents during the SPEVI conference has led to the development of a family support group for parents of children with vision impairment in South Australia which is called the Wombat Zone. SASVI staff and parent attendees had a de-briefing session one evening. This provided an opportunity for everyone to disseminate their new knowledge and discuss exciting innovations that could be further developed at SASVI.

The Round Table Conference was held in Adelaide this year. This enabled us to release all staff from our Statewide Alternative Print Production Service and Statewide Resource Centre to attend. The conference received excellent feedback and staff delegates have since presented their new learning to the rest of the service. This included a Professional Learning Community day that focused on maths braille layout.

Visitors to the school in 2015 included a return visit by Karen Wolffe from the American Foundation for the Blind, Texas, USA, who presented to staff across the whole Service, students from the secondary VI Programs at Charles Campbell College & Seaview High School and families. Her passion in speaking about the importance of social skills, the need for good advocacy and independence skills was very empowering. Karen also provided advice and support on SASVI's draft revised social skills framework which has been based on the Personal & Social Skills General Capabilities section of the Australian Curriculum, Karen's resources and SASVI's social skills checklist.

Lorin Nicholson, a blind guitarist and youth motivational speaker, from Queensland, really resonated with the students, families and staff. His childhood stories were hilarious as he, and his two severely vision impaired sisters, were expected to contribute to the household chores from a young age and undertook, what appeared to be unsurmountable challenges, as they

grew up. His message was clear though and students were inspired by his personal, musical and career aspirations and success.

In Term 2, Ramona Mandy of Humanware, once again supported staff and students to further develop their BrailleNote skills, travelling from Melbourne to spend two days at the school. We all have a huge amount of respect for Ramona's technological, communication and tutoring skills and she has become valued friend of the school and service!

SASVI also welcomed Karen Stobbs, Principal of BLENNZ (Blind & Low Vision Education Network New Zealand) and the e-learning facilitator, Karen Gilligan to school. BLENNZ also has a specialist school for students with vision impairment, based in Auckland, and a country wide vision impairment advisory service, so we have so much in common. SASVI and BLENNZ staff communicates and shares strategies and programs.

Key areas for improvement this year have been:

- Further development of The Arts, Economics & Business, Citizenship and introduction to Digital Technologies (Australian Curriculum).
- Development of a whole school daily reading block and consolidation of the whole school literacy agreement which enables braille to be fully incorporated into the programs.
- Close collaboration with DECD (Department of Education and Child Development) and ACER has ensured that the PAT R and M standardised assessments being taken by students in government schools across SA are now available to students with VI in alternative print.
- All teachers to have a qualification in literary Braille code.
- School Service Officers (SSOs) to meet termly for specific VI professional development and to complete their literary Braille studies.
- Twice termly Service wide Professional Learning Community that supports teachers to increase their knowledge of BrailleNote and the use of iPad accessibility functions and apps to improve student access to curriculum.
- Development of a separate Professional Learning Community for SSOs to provide opportunities for collaboration and to further develop their knowledge of various vision conditions and the implications for learning.
- Continued management of the National Partnership, 'More Funding for Students with Disabilities' equipment.

The leadership team attended a series of 'Promoting & Developing High Quality Teachers' sessions and 'Performance Counts' professional development during the year. We recognise that teacher performance development plans and goals that reflect the Teaching for Effective Learning pedagogies and the professional standards of teaching coupled with a clear understanding of whole school agreements and expectations results in improved outcomes for students.

SASVI was very proud to be invited to participate in an Australia wide project by the Australian Institute for Teaching and School Leadership (AITSL). 43 schools across Australia participated in this second stage, two DECD schools from SA. All teachers completed surveys on the professional conversations that exists between different cohorts throughout the Service (those

work shadowing, mentors & mentorees, working groups, PLC, team curriculum planners etc.) The data from SASVI has contributed significantly to the provision of a snapshot of professional conversations that can be taking place in Australian schools.

Although the National Partnership initiative, 'Assistive Technology for Students with Vision Impairment' was a two year grant, we have continued to provide Assistive Technology (AT) support to SASVI and mainstream students. We work in close partnership with the Special Education Resource Unit to maintain and update the equipment data base, loan agreements and joint processes. The specialist 'Training Lab' is used to assess students' AT needs, to enable students, statewide, to trial equipment and to provide professional development to the student, relevant members of staff at the mainstream schools, and SASVI, and to the students' families. An important priority for the National Partnership has always been to build SASVI staff's capacity to determine the equipment needs of students with vision impairment and to provide professional development in their use. The AT assessments have been aligned to students' visits to SASVI for functional vision assessments, undertaken at the school by Guide Dogs Association's optometrist and O&M instructor. This works very well.

SASVI has worked in partnership with all the non-government agencies that support our students and families. CanDo4Kids, Guide Dogs Association and RSB provide early intervention to youngsters with vision impairment. CanDo4Kids has also provided OT, speech and AT support to individual students. Guide Dogs Association supports students by providing the orientation & mobility support in country schools and in-school support to all year 12 students. Guide Dogs also provides SASVI with weekly functional vision assessments based in the school environment, individual support for students to learn to put in their own contact lenses, physiotherapy support and social work – case management family support if needed (Sensory Directions). SASVI is also grateful to Guide Dogs for providing O&M support to the school, during the absence and reduced duties of the school's O&M teacher. RSB puts on specific technology sessions for our students during Techfest and has provided employment advice to students transitioning from school. Staff and students alike really enjoyed the Liverpool Foundation soccer clinic that was organised through them. Blind Sport coordinator works in partnership with our PE teacher to organise weekly lunchtime sport at the school and also Thursday afternoon gym club. The association also pays for the services of a qualified coach.

Teachers and SSOs have worked collaboratively throughout the year to develop and support programs that are based on the Australian Curriculum, Expanded Core Curriculum (for students with vision impairment) and student wellbeing. Strategies foster student engagement, an inquiring mind, and problem solving. Students are encouraged to adopt a growth mindset and to 'have a go' through ongoing dialogue, feedback and formative assessments. Teachers have developed great initiatives throughout the year that has provided great opportunities for students – blind cricket and tennis, goal ball, blind soccer and Restless Dance to name a few. Students have also broadened their social groups in 2015 by working inclusively on specific areas of the Australian Curriculum with a number of local mainstream schools.

The school has organised two day 'Short Courses' each term this year which targeted students of specific age ranges and needs, their parent and the mainstream teacher. The courses focused on areas of the expanded core curriculum. In addition, the school welcomed country students, who spent between one day to a week at SASVI, on a regular basis, to receive the support of our specialist teachers, their programs, strategies and explicit teaching.

## **REPORT: Round Table on Information Access for People with Print Disabilities**

Neil Jarvis

*President*

As we reached the end of what for us has been a year of highs and one very serious low, I thought I'd take the opportunity to update you on what we've done this year. I hope you will see that Round Table, in spite of our sad loss earlier this year, is still very much at the top of its game and is looking forward to 2016 with enthusiasm and with a busy schedule ahead of it.

### **TAMMY AXELSEN**

As you will all probably know, the last few months have been a challenging time for us as we have had to come to terms with the sudden death of our Administration Officer, Tammy Axelsen. Tammy had been with Round Table for many years. She passed away suddenly on 10 June, just a few short weeks after our annual conference in Adelaide. Thanks to her excellent organisational skills and to superb support from a number of our friends, we were able to ensure that the running of the organisation, while affected badly for a time, did not come to a halt. All our commitments have been met, and we have even started on some new initiatives, or continue existing ones which we got under-way over the past twelve months. We have made an appointment to the position of Administration Officer which I will tell you about later in this report.

We all miss Tammy very much: she was more than our Administration Officer, she was our friend. Her contribution to Round Table over many years and to the entire print disability sector was monumental. We have thought about how we can honour that contribution and remember Tammy in our work every year. From next year, we will be re-naming the Lifetime Achievement Award in her honour as a mark of respect. The last time we all saw Tammy was in Adelaide at our annual conference. Once again the conference was a huge success, with some superb speakers, lots of networking, and a deserved winner of the Lifetime Achievement Award: Elisabeth Wegener.

### **OTHER ACTIVITIES YOU SHOULD KNOW ABOUT**

There are five recent developments I'd like to apprise you of. Firstly, earlier this year we commenced a review of two of our Round Table Guidelines documents. The guidelines refer to accessible e-Text and accessible assessments for students. Both working groups are well into their tasks and will complete their reviews in time for our 2016 conference in Melbourne, where we intend to launch them before beginning work on the next documents in what has now become a rolling review process. I'd like to thank all those organisations who have supported this process by providing experts to become members of these groups.

Secondly, Round Table recently formed a new sub-committee that will be dedicated to coordinating work on accessible tactile graphics. A set of Terms of Reference for this new sub-committee was adopted at the Executive's October meeting, and the sub-committee will begin recruiting members very shortly. This is becoming an increasingly fast-changing field and we

believe that it is important that agreed approaches be arrived at throughout Australia and New Zealand, just as we have managed in other aspects of accessible information.

Thirdly, we have begun our work to prepare for the 2016 conference which will be held in Melbourne in May. The conference theme is Access and engagement with the marketplace of information, technologies and learning. An organising committee is in place, and a Conference Programme Subcommittee is already working on pulling together an exciting programme based on the excellent abstracts we've already received. For general information about the Conference, please contact Ms Marjorie Hawkings, Administration Officer, Email: [admin@printdisability.org](mailto:admin@printdisability.org), Telephone: +61-3-9010-6251.

And that leads me on to the fourth of those five developments. At the end of October, we offered the position of Administration Officer to Marjorie Hawkings, and I'm delighted to say she has accepted. The initial agreement takes us to the end of June next year, at which time both parties can review how it is working with the option to further extend the arrangement. Like Tammy, Marjorie will work for us in a freelance capacity, to a set number of hours each month. I am personally delighted that Marjorie is coming on board with us. She knows this organisation well, and what she doesn't know she is learning fast. She now has access to all of Tammy's electronic records, including e-mails going back many years and other files relevant to Round Table. Marjorie is contactable by email, [admin@printdisability.org](mailto:admin@printdisability.org). So please continue to use that address if you want to contact our Administration Officer.

Marjorie is already a great asset to Round Table. She has a long track-record as an Executive Assistant, and is a really motivated person who gets the job done. Those of you who come to the Round Table Conference next year in Melbourne will have a chance to meet her. I am sure many of you will be in touch with her, one way or another, between now and then.

Please join me in welcoming Marjorie to our Round Table family.

## CONCLUSION

I believe that this report shows that in spite of our serious personal setback earlier in the year, Round Table is looking to the future with optimism. We look forward to each and everyone one of you connecting with our organisation in the year ahead. We hope we will see as many of you as possible in Melbourne for our Conference.

If you want to contact me in the meantime, please email [njarvis@blindfoundation.org.nz](mailto:njarvis@blindfoundation.org.nz).

## **REPORT: International Council for Education of People with Visual Impairment (ICEVI)**

Frances Gentle, James Aiwa, Arnold Koima, Barbara Farouk and Ben Clare

*Members of the ICEVI Pacific Committee*

### **INTERNATIONAL PERSPECTIVES**

*Frances Gentle, ICEVI Second Vice President; and Lecturer, RIDBC Renwick Centre/The University of Newcastle*

The International Council for Education of People with Visual Impairment (ICEVI) is an international organisation that shares with SPEVI the goal of promoting equitable access to education for learners who are blind, have low vision, deafblindness or additional disabilities. At the global level and within its seven world regions, ICEVI works closely with the World Blind Union (WBU), the International Agency for the Prevention of Blindness (IAPB), United Nations (UN) agencies, the World Health Organization (WHO), international development organisations, and government and non-government providers of education, health and rehabilitation services for children and adults with vision impairment and other disabilities. ICEVI and the World Blind Union (WBU) have been implementing their “Education for All Children with Visual Impairment” (EFA-VI) global campaign in over 25 focus countries since the campaign’s launch in 2006. The goal of the campaign is to ensure that all girls and boys with blindness and low vision enjoy the right to education. The Campaign’s focus is on education for children with vision impairment in the developing world where currently it is estimated that less than ten-percent have access to education. For more information, visit the ICEVI website, [http://icevi.org/efa/what\\_is\\_EFAVI.html](http://icevi.org/efa/what_is_EFAVI.html).

In July 2016, ICEVI and WBU will be hosting their joint General Assemblies at the Rosen Centre Hotel, Orlando Florida, USA. The program includes an ICEVI day of conference-style presentations on 22<sup>nd</sup> August, and two days of joint WBU-ICEVI presentations and workshops on 23<sup>rd</sup> and 24<sup>th</sup> August. Information about the joint WBU-ICEVI Assemblies, including the costs of registration and accommodation, is available on the WBU website, <http://www.worldblindunion.org/English/general-assembly/Pages/default.aspx>. It is anticipated that online registrations will open in February 2016, with the program available in May 2016.

Listed below is a summary of several ICEVI activities in 2015, as compiled by Dr Mani, ICEVI’s Chief Executive Officer:

- International partner membership of the Global Campaign for Education (GCE), with participation in the GCE General Assembly, Johannesburg, South Africa in February 2015. The GCE is a civil society movement that aims to end the global education crisis.
- Participation in the SEAMEO (South East Asian Ministers of Education Organisation) Centre Directors Meeting, Bangkok in June 2015. During the meeting, ICEVI’s representatives encouraged mainstream institutions to work with the Special Education Resource Centre of SEAMEO, located at Malacca, Malaysia. ICEVI played an active role

with the SEAMEO-SEN in organising a Regional Conference on Special Education in Bangkok in July 2015.

- Formation of a strategic partnership with the DAISY Consortium to provide practical solutions for print disabled people. Colin Low, President ICEVI, and Richard Orme, CEO DAISY, are leading ICEVI's technology initiative and made a visit to Mauritius to work on a pilot project.
- Progress with the Text to Speech (TTS) Engine work in Myanmar. The demo version has been released and the project team aims to release the final version on World Disability Day, 3<sup>rd</sup> December 2015.
- Joint ICEVI and WBU presentation at the Day of General Discussion on Article 24 of the UN Convention on the Rights of Persons with Disabilities (CRPD0, held in Geneva in April 2015.
- Professional contribution to the Policy and Teacher Preparation Working groups of the UNICEF.
- Publication of the January and July 2015 issues of ICEVI's journal, and the April and October 2015 issues of ICEVI E-News. For the first time, digital copies of The Educator were distributed to over 3500 contacts. Current and previous issues of The Educator and E-News may be downloaded from ICEVI's website, <http://icevi.org/publications/>.
- Re-launch of the ICEVI-WBU EFA-VI Global Campaign at the IDP (Institutional Development Program) Africa Forum in Kampala Uganda in October 2015. The IDP was founded in 1991 by Perkins International and Sight Savers International. The IDP supports the work of the WBU and the African Union of the Blind in expanding the capacity of organisations of and for the blind in Africa to advocate for opportunities for improved policies and equal participation for people who are blind and visually impaired. Information about the IDP Africa Forum is available on the Perkins website, <http://www.perkins.org/international/africa/idp>.
- Presentation at the United Nations Economic and Social Council (UN-ECOSOC) meeting in New York in July 2015. Information about the ECOSOC's 2016 theme of "Implementing the post-2015 development agenda: moving from commitments to results" is available on their website, <http://www.un.org/en/ecosoc/>.
- The ICEVI East Asia Regional Conference was held in Bali, Indonesia during September and October 2015. ICEVI presented an award to the Nippon Foundation during the conference, in recognition of their substantial and continued support for the ICEVI Higher Education project in the East Asia region.

## **REPORT: PACIFIC REGION**

*James Aiwa, ICEVI Pacific Chairperson; and Lecturer, Goroka University, Eastern Highlands Province, Papua New Guinea*

At the regional level, the ICEVI and WBU EFA-VI campaign was launched in Fiji in 2008 and in Papua New Guinea in 2013. The following activities have taken place during 2015 in the Pacific region and in PNG.

The ICEVI Pacific EFA-VI Forum was held in Melbourne in January 2015, in conjunction with the SPEVI Biennial Conference. The 27 Forum delegates represented government and non-government organisations in Australia, New Zealand, Fiji, Kiribati, Papua New Guinea, Tonga,

the United Kingdom and Poland. The delegates included Colin Low, President of ICEVI, and Setareki (Seta) Macanawai, CEO of the Pacific Disability Forum.

The Pacific Disability Forum (PDF) held its 4<sup>th</sup> Pacific Regional Conference on Disability in Nadi Fiji in February'15. ICEVI was represented by Frances Gentle and James Aiwa, who delivered a joint presentation on the Pacific EFA-VI campaign.

The first Papua New Guinea (PNG) Highlands Regional Forum to promote the EFA-VI campaign was held at Mt. Sion Special Education Resource Centre (SERC) in Goroka in the Eastern Highlands from the 1<sup>st</sup> – 2<sup>nd</sup> July'15. The EFA-VI campaign was officially launched at the Forum, and 40 participants came together to address and promote education enrolments for girls and boys with blindness and low vision in primary schools in PNG. The Forum was jointly financed and supported by ICEVI and Mt. Sion SERC and coordinated by Ms Cecilia Bagore. Forum participants included staff from SERCs, National Callan Services, students majoring in Special Education at the University of Goroka, parents, community members and three persons with vision impairments. Goroka in the heart of the highlands of PNG, and most participants travelled between 7-8 hours by road covering over 300 kilometers each way to attend the Forum.

Other PNG EFA-VI activities that took place during 2015 included the following:

- Purchase of laptops for two students with vision impairment who are enrolled at the Rosary Secondary School. The students were provided with computer training, funding by the National Department of Education.
- Sponsorship of a student with vision impairment to participate in the School Quiz at Rosary Secondary School

## **REPORT: PAPUA NEW GUINEA (PNG)**

*Arnold Koima, Inspector, Inclusive Education Unit, PNG National Department of Education*

One of the major activities of the PNG National Department of Education (NDoE) during the last three years has been the purchasing of braille technology, with thanks to financial support from Australia Aid. The technology purchased consists of a braille embosser, desktop computer, printer, scanner and 3-in-1 copier for each of four locations. The first location is the Mount Sion Centre for the Blind in Goroka, for heavy duty braille production for the highlands and Momase provinces. Braille production will also be set up at a resource centre in the Rabaul Island province, and the Callan Gerehu SERC in Port Moresby. The fourth location is the NDoE Measure Service Division (MSD), for brailing of the national examinations for Grades 8, 10 and 12. The braille examination services of the MSD may be extended to other Pacific Island countries if required.

Installation of the braille technology and training in its use will be undertaken by the NDoE with the support of Nigel Herring of Pentronics and Ben Clare. The training participants will be four blind teachers and four former grade 12 students, who will be employed by the NDoE as specialised braille unit officers. This is an excellent job opportunity for the participants, and the responsibilities will include production and proof-reading of the brailled national exams and other school curriculum materials produced by the NDoE. We hope that the Australian government will continue to support us with the purchase of visual aids in the coming years.

The NDoE Inclusive Education Unit is staffed by Dr. John Pokana, Director; Cathy Sowi, Curriculum officer, and two Inspectors, Paul Valuka and Arnold Koima. The Inclusive Education Unit is currently undergoing a restructure, and there are plans to establish four new SERCs in provinces that were previously without a SERC. During 2016, there will be 20 SERC teachers involved in a Diploma of Inclusive Education program. Upon their successful completion of the program, these teachers will be gradually moved into specialised training in different disability areas. The Unit is investigating the creation of specialised teacher aide positions to support students who are blind and deaf.

## **REPORT: FIJI SOCIETY FOR THE BLIND**

*Barbara Farouk, Executive Director, Fiji Society for the Blind*

The Fiji Society for the Blind (FSB) is proud to list the following achievements in 2015.

In partnership with the Fiji Ministry of Health and Dr. Margot Whitefield and her team from St. Vincent's Hospital, Australia, FSB organised the inaugural Fiji Albinism Symposium. Approximately 300 people attended the two-day event, including health personnel, teachers, FSB community-based rehabilitation (CBR) field workers, Ministry of Health community rehabilitation assistants (CRAs), Ministry of Education representatives, parents and students with albinism.

Following the Albinism Symposium, the Fiji Albinism Committee with support from Australia, provided each child with albinism with a bag pack containing essential items to be used when playing or going out in the sun. Each bag contained a bottle of sunscreen, hat, long-sleeved shirt and a pair of sunglasses. An important outcome of the Symposium was the drafting of the "No Hat, No Play" Policy by the Fiji Ministry of Education to be included in the curriculum.

The Early Learning Program was introduced in June 2015 at the Early Intervention Centre. Two children with vision impairment, aged 3½ and 4 years, were enrolled in this program. A retired special education teacher has been appointed to lead the program, and will be supported by the FSB CBR Coordinator. We anticipate enrolling a few more children with vision impairment into the Centre next year.

FSB purchased assistive technology through a Capacity Building Grant from the Fiji Community Development Program, an agency of the Australian Government Department of Foreign Affairs and Trade (DFAT). The purchases were two Focus Blue refreshable braille displays for our braille and transcription program, and eight braille machines for our Early Intervention Program. The provision of this equipment will enhance the learning and development of students who are blind and have low vision.

Three of our children will be graduating from the Fiji School for the Blind and will be promoted to year 9 in mainstream schools next year.

Six students with vision impairment are enrolled at the University of the South Pacific in various educational programs of their choice. This includes two of the Society's regional students, one

from Samoa and the other from the Solomon Islands. The Society is providing the students with the support needed to meet their learning needs.

There are eight children in FSB's Early Intervention programme throughout Fiji. The FSB fieldworkers are providing basic training skills and orientation and mobility in the children's respective homes.

Through FSB's CBR screening program, funded by Fiji Community Development Program of DFAT, we were able to refer 320 people with Bilateral Cataract, Cataract and Pterygium to the Taveuni Eye Surgery project. The surgeries were undertaken by surgeons from Hawaii and America. This is an annual event that is organised by the Taveuni Rotary Members in partnership with the Fiji Ministry of Health. All the surgeries were successfully conducted.

In conclusion, we at the Fiji Society for the Blind have received tremendous support from our partners. We will continue to extend from National to Regional and International levels so that our partners are fully aware of our service delivery.

### **REPORT: SOLOMON ISLANDS, PAPUA NEW GUINEA AND TIMOR-LESTE**

*Ben Clare, Pacific Project Manager, Aspen Medical; Disability Consultant, Australian Aid*

This year has been another busy and productive one for me. I have been very fortunate to work with some inspirational people throughout the Pacific who are committed to the education of people with vision impairment and who are making a major contribution towards this goal. I am currently involved in several projects in the Pacific region and in Timor-Leste, and present below a summary of progress during the year.

#### ***Solomon Islands***

In the Solomon Islands, my work with the Aspen Foundation focusses upon (a) provision of equipment to a disability support centre in Honiara to boost education programs for blind and vision impaired students, and (b) provision of employment opportunities for young adults with vision impairment. Aspen Medical is an Australian medical service provider that operates health clinics and related facilities in various remote locations throughout Australia and the world. In the Solomon Islands, Aspen is responsible for the medical care of Australian and Pacific Islands personnel associated with the Regional Assistance Mission to Solomon Islands (RAMSI.) The Aspen Foundation is the charitable arm of Aspen Medical and a key activity of the Foundation is assisting with disability projects in countries where Aspen operates.

Aspen Foundation's donation of braille and computer equipment to the Red Cross Special Development Centre in Honiara has resulted in a great increase in the number of Solomon Islander students with vision impairment acquiring braille and computer literacy skills. The Centre currently employs two vision impaired teachers who are jointly funded by the Aspen Foundation and the Solomon Islands Ministry of Education.

Employment opportunities in the Solomon Islands for people with vision impairment and other disabilities are extremely limited, especially in provincial and rural areas. The Aspen Foundation supports young adults with disability who enrol in the Youth at Work program, an initiative of the Secretariat of the Pacific Community (SPC), a regional intergovernmental organisation. The

Youth at Work program links trainees with disabilities with local business houses and village gardeners who work to boost employment opportunities. The trainees are payed for their work and also undergo training in public speaking, curriculum vitae production, etc. Program graduates are often moved into fulltime employment. Since the beginning of this year, people with vision impairment have been part of this successful initiative, with work found in the hospitality and rural sectors.

It is an honour for me to be associated with the Aspen Foundation's projects in Solomon Islands.

### ***Papua New Guinea***

My work in PNG is part of an ongoing project that is supported by CBM New Zealand, NZ Aid, and the Blind and Low Vision Education Network New Zealand (BLENNZ). This project is improving service provision at Callan Services National Unit, a ministry of the Christian Brothers. Resource Centres assisting people with disability have been established in the majority of PNG's provinces. My role in PNG has been to install braille production equipment and computers in a number of these Centres and to train staff in computer-based braille production.

### ***Timor-Leste***

In Timor-Leste, I assisted with the running of a two-week inclusive education workshop for school teachers from three Timorese districts, together with individualised braille literacy training for two students from the Fuan Nabilan Education Centre. Fuan Nabilan is a small NGO located in the provincial town of Same. Its activities include support for students with vision impairment who are enrolled in local schools through the provision of brailled texts and liaison with teachers.

As an advocate for people with vision impairment and in my very privileged role as a trainer, I am fortunate to work with people who share my goals and who are at the centre of ongoing change towards an inclusive society for people with disability. While local conditions can be very difficult, I can honestly say that I am noticing major improvements in service provision, advocacy and public awareness of issues pertaining to people with disability in the countries that I have visited and worked in during 2015.

With the Australian government launching its Development for All strategy this year, and other countries and organisations pledging to be more inclusive, it is an exciting time to be working in the disability sector.

## **SPEVI Special Recognition and Tributes, 2015**

The SPEVI Committee of Management recognises the significant contributions of Galiema Gool and Jackie Booty to the field of education of students with vision impairment. We also pay tribute to Tammy Axelson and John Shute, who passed away during 2015.

### **Special recognition: Galiema Gool, Scholarship Recipient**

Congratulations are extended to Galiema Gool, Assistant Principal (Vision) at Corrimal Public School in NSW, who was awarded a NSW Premier's IOOF Centre for Educational and Medical Research Itinerant Support Teacher (Vision) Scholarship. Galiema's topic of study is tactual graphics, with a focus on the methodology of production, tactile graphics programs, relevance of information presented in tactile format, student preferences and prerequisite skills.

### **Special recognition: Jackie Booty**

*Contributed by Heather Grainger*

Jacqui trained as a primary school teacher in the early 1960s. She taught in country schools in Queensland until requesting a transfer to a school in Brisbane. Jacqui had no idea that she would be transferred to Narbethong School for Visually Handicapped where she was to teach students who were blind. (Narbethong was established at Buranda, Queensland in 1963. Prior to its establishment, students with vision impairment were educated at the Queensland School for the Blind that was located at Annerley, on the same campus as the Queensland School for the Deaf.

On 11<sup>th</sup> February 1964 Miss Kinsman (now Booty), became one of the seven teachers at Narbethong. There was no formal training program for teachers in the field of education for students with vision impairment and limited relevant professional texts or journals. Experienced colleagues were of prime importance in gaining the knowledge and expertise that was necessary to teach students with vision impairment, especially teaching subjects in braille. During her years at Narbethong, Jacqui developed exceptional skills in teaching braille reading and maths, learning the various braille codes and mastering the specialised teaching equipment. The abacus and Taylor frame were vital maths teaching resources at that time and Jacqui became competent in both.

In April 1968 Jacqui married Michael Booty. Jacqui had been experiencing poor health for many years, with surgery in Melbourne during 1970. She returned to the teaching staff of Narbethong in 1971 where her expertise in teaching braille became an essential component providing collegiate support for the less experienced teachers at Narbethong. At this time courses in disability education at tertiary institutions were in the developmental stage. In 1974 for example, Mt Gravatt CAE (now Griffith University) established a full-time course in several disability-related areas. Selected teachers employed by the Queensland Department of Education were released for a year on full salary to participate in retraining in a specific area of disability. In 1975, Jacqui completed a one-year course in vision impairment, returning to teaching at Narbethong upon completion.

In the late 1970s Michael's job required a move to Victoria where Jacqui taught in a special school in Sunbury. In 1982, she returned to Narbethong. In 1985 a Queensland state-wide Committee of Review was established to investigate services for students with vision impairment. As a result, the 'Special Education Resource Centre, Visual Impairment' was established to provide centralised support for educators, parents and students enrolled in the new facilities that had been created in Queensland over the previous years. The Paediatric Low Vision Clinic also became part of this centre. The majority of the staff for this Centre were transferred from Narbethong and provided consultancy in the disability-specific areas of braille and low vision, orientation and mobility, and provision of specialised material resources.

Initially Paul Pagliano held the position of the teacher responsible for alternate format materials at the Special Education Resource Centre. When he was transferred to Bundaberg, Jacqui took on this role. Subsequently she attended a six-month teacher librarianship course to upgrade her skills.

It was during her years as a consultant at the state-wide resource centre that Jacqui's expertise in all areas of teaching braille became widely recognised and appreciated by educators. Her role included consultancy in the various braille codes used in Australia, and techniques of production of alternative format materials, including braille, audio and large print. Jacqui shared her vast store of knowledge with colleagues throughout Queensland. She travelled extensively within the state providing support for individual teachers and delivering statewide and local training seminars.

As publications about the teaching of braille maths were unavailable, Jacqui and her colleagues developed a series of training documents. These included Teaching Braille Maths and an Abacus Training program. When a national program of Student Performance Standards was being investigated in the 1990s, Jacqui was head of the Queensland team that produced a document and video providing guidelines and ideas in teaching concepts of measurement to blind students necessary to meet the requirements of the maths performance standards.

As the officer within the Queensland Department of Education responsible for the production of alternative format materials, In this role, Jacqui developed a close relationship with the volunteers at Braille House, the headquarters of The Queensland Braille Writing Association and the Taped Services for the Handicapped (now Queensland Narrating Services). As many of the print texts required extensive modification before being transposed into braille, classroom teachers required some guidelines. A major contribution was the development of guidelines for editing print materials before they were submitted for braille. In conjunction with Braille House, Jacqui organised the yearly Braille Reading and Writing Competition for students throughout Queensland.

With the introduction of new technology, Jacqui was responsible for the oversight of computer braille production of braille texts, maps and diagrams. Jacqui also took the lead role on local, interstate and international committees, including the following:

- Australian Braille Authority: Delegate for the Queensland Education Department at national conferences; Vice President

- Roundtable for the Print Handicapped (now Round Table on Information Access for People with Print Disabilities): Delegate for the Queensland Education Department; Organiser of the National Conference in Brisbane

Because of her role within the state and her membership of committees associated with print disability, Jacqui's expertise was acknowledged by interstate colleagues. She was invited to be one of the Australian research fellows on the International Braille Literacy Committee attending conferences in the UK and the USA. Prior to the introduction of the Unified English Braille code in Australia in 2005, Jacqui was instrumental in organising and presenting many in-service activities for teachers throughout Queensland.

Jacqui contributed strategies in teaching braille maths for the Kelley and Gale (1998) publication entitled *Towards Excellence: Effective education for students with vision impairments*. As part of the team from the Special Education Resource Centre, Jacqui also filled the position of part time lecturer in the area of vision impairment at Griffith University.

Even after she retired in the late 1990s, Jacqui's reputation continued. In 2011, Jacqui was awarded a Lifetime Achievement Award from the Round Table on Information Access for People with Print Disabilities.

## In Memorium

### Tammy Axelson

*Contributed by Neil Jarvis*

Our much-loved friend and colleague, Tammy Axelsen died suddenly in June 2015. For many years Tammy had been Administration Officer for the Round Table on Information Access for People with Print Disabilities, and there are simply no words to express the sense of loss that we at Round Table experienced. Many will have known Tammy well, others will have had occasional contact with her. I know though that all of you will remember her, as we do, as somebody who would do anything for anyone, would always go the extra mile, and who was totally dedicated to the cause of accessible information in general, and to Round Table in particular.

Our thoughts were with her family: all of whom were so precious to Tammy. Tammy, rest in peace. Thank you for being a friend and colleague.

### John Alfred Shute

*Contributed by Jordie Howell*

Many of you who attended the annual National Braille Music Camps will know of John Shute: braille music transcriber, musician, organist, choir conductor and friend. I am very sad to inform you that after a long battle with cancer, John passed away yesterday morning at 6:15 PM with his wife June beside him.

In 1993, while reading as a volunteer at Vision Australia, John met Dorothy Hamilton who introduced him to braille music transcription and he read to her for over 10 years. After attending the Braille Music Camp, John took it upon himself to learn braille in a period of three weeks, and then moved straight on to mastering the braille music code.

John dedicated the last 20 years of his retirement to braille music. He transcribed all the music for the national Braille Music Camps for over 15 years, collating it in to beautifully bound books for the students to work from on the first morning of camp. Even while seriously ill this year, John and June would have several of us over at different times so that John could dictate the camp music to us. I remember arriving one day to find he had already brailled one of the pieces and wanted me to proofread it. In addition to his dedication to the music camps, John worked as a freelance transcriber, transcribing music at short notice for blind musicians, both in Australia and overseas, often working in the middle of the night to ensure their music was ready in time for rehearsal. He also mentored students and taught them to dictate their music to other friends encouraging them to become independent and self-sufficient musicians.

John and June were a wonderful couple, fitting into the blind community as if they'd always been there. If you'd visit them for lunch or a cup of tea, you were spending time with your closest friends. John, you will be sorely missed. Your legacy lives on in the 30,000 pages of braille music you transcribed, in the skills and knowledge you imparted to so many blind musicians and the friendship and memories we all treasure.

## About SPEVI

The South Pacific Educators in Vision Impairment (SPEVI) Inc. is the major professional association for educators of students with vision impairments in Australia, New Zealand and the South Pacific region. SPEVI acts as the professional body in matters pertaining to the education and support of persons who are blind, have low vision, deaf-blindness, or additional disabilities. SPEVI membership is open to educators, professionals and parent groups who support and promote education for persons with vision impairment.

SPEVI Inc is an Association incorporated under the laws of NSW, Australia – Registration number INC9889733.

### SPEVI VISION

To promote educational systems in Australia, New Zealand and the South Pacific in which diversity is valued and disability is not viewed as a characteristic by which to judge a person's worth.

### SPEVI MISSION

To stimulate professional and public debate and action on vision impairment issues and change which affect, or have the potential to affect the daily lives of persons who are vision impaired, while emphasising concepts of inclusive, responsive educational communities and interdependence between learners and families within those communities where all people are valued.

### SPEVI AIMS

- To be recognised as the professional body of educators whose specialty is in matters pertaining to the education of persons with vision impairment in Australia, New Zealand, and Pacific Island Countries.
- To advocate on behalf of members, persons with vision impairment and parents/carers for equitable education access and participation, in accordance with international and national disability anti-discrimination legislation.
- To encourage the highest standards in the educators of persons with vision impairment by promoting research and professional training for general and specialist teachers.
- To promote and facilitate the interchange of information and collaboration among educators, professionals, parent groups and the broader community concerning education and equal opportunity for persons with vision impairment.
- To encourage the use of appropriate mainstream and assistive technologies, resources and optical and non-optical aids, in the education of persons with vision impairment, and

to promote teacher education programs in the use and care of existing and new techniques and technology.

## **SPEVI STRUCTURE**

SPEVI operates at two levels:

- National level, by means of the Committee of Management;
- Local level (state/territory), by means of a Branch comprising SPEVI Councillors and members who reside in the location.

## **SPEVI CODE OF ETHICS**

All members of SPEVI will...

- Work for the good of SPEVI and actively support and promote its Aims as defined in the SPEVI Constitution;
- Act honestly and with respect and integrity at all times;
- Provide leadership for all members of SPEVI to foster high ethical standards;
- Act to enhance public awareness of SPEVI's objects; and
- Maintain transparency of decision-making within SPEVI.

## **SPEVI Office Bearers for 2015-2017**

### **Committees of Management**

SPEVI is managed at the national level in Australia and New Zealand by a Committee of Management. The national Committees, subject to SPEVI's Constitution and to any resolution passed by SPEVI in general meeting, are responsible for the governance and management of the activities of the Association and its members. The Australian Committee manages and supports Australian and the Pacific Island members.

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## **SPEVI Councillors**

SPEVI is locally represented by Councillors. The Councillors support and provide regular networking opportunities to local members of SPEVI. They are also the two-way communication link between the Executive and Members of SPEVI.

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